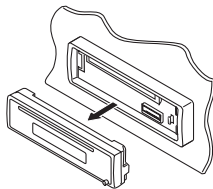


JVC

SERVICE MANUAL

CD RECEIVER

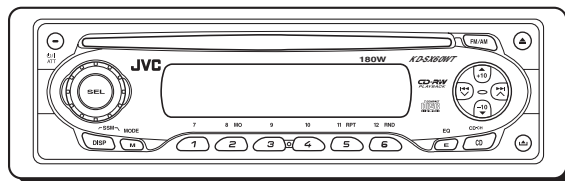
KD-SX60WT, KD-SX50M



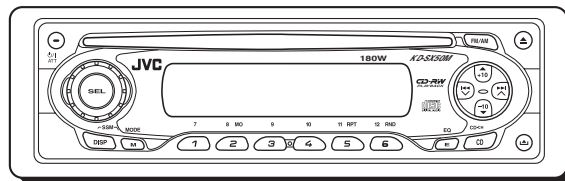
COMPACT
disc
DIGITAL AUDIO

CD-RW
PLAYBACK

KD-SX60WT



KD-SX50M



Area Suffix

J ----- Northern America

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SPECIFICATION

AUDIO AMPLIFIER SECTION	Maximum Power Output	Front	45 W per channel
		Rear	45 W per channel
	Continuous Power Output (RMS)	Front	17 W per channel into 4 Ω , 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion.
		Rear	17 W per channel into 4 Ω , 40 Hz to 20 000 Hz at no more than 0.8% total harmonic distortion.
	Load Impedance	4 Ω (4 Ω to 8 Ω allowance)	
	Tone Control Range	Bass	± 10 dB at 100 Hz
		Treble	± 10 dB at 10 kHz
	Frequency Response	40 Hz to 20 000 Hz	
	Signal-to-Noise Ratio	70 dB	
	Line-Out Level/Impedance	2.0 V/20 k Ω load (full scale)	
	Output Impedance	1 k Ω	
TUNER SECTION	Frequency Range	FM	87.5 MHz to 107.9 MHz
		AM	530 kHz to 1 710 kHz
	[FM Tuner]	Usable Sensitivity	11.3 dBf (1.0 μ V/75 Ω)
		50 dB Quieting Sensitivity	16.3 dBf (1.8 μ V/75 Ω)
		Alternate Channel Selectivity (400 kHz)	65 dB
		Frequency Response	40 Hz to 15 000 Hz
		Stereo Separation	35 dB
		Capture Ratio	1.5 dB
	[AM Tuner]	Sensitivity	20 μ V
		Selectivity	35 dB
CD PLAYER SECTION	Type	Compact disc player	
	Signal Detection System	Non-contact optical pickup (semiconductor laser)	
	Number of channels	2 channels (stereo)	
	Frequency Response	5 Hz to 20 000 Hz	
	Dynamic Range	96 dB	
	Signal-to-Noise Ratio	98 dB	
	Wow and Flutter	Less than measurable limit	
GENERAL	Power Requirement Operating Voltage	DC 14.4 V (11 V to 16 V allowance)	
	Allowable Operating Temperature	0°C to +40°C (32°F to 104°F)	
	Grounding System	Negative ground	
	Dimensions (W \times H \times D)	Installation Size (approx.)	182 mm \times 52 mm \times 150 mm (7-3/16" \times 2-1/16" \times 5-15/16")
		Panel Size (approx.)	188 mm \times 58 mm \times 11 mm (7-7/16" \times 2-5/16" \times 7/16")
	Mass (approx.)	1.3 kg (2.9 lbs) (excluding accessories)	

Design and specifications are subject to change without notice.

SECTION 1

PRECAUTION

1.1 Safety Precautions



CAUTION Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.



CAUTION Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

1.2 Preventing static electricity

Electrostatic discharge (ESD), which occurs when static electricity stored in the body, fabric, etc. is discharged, can destroy the laser diode in the traverse unit (optical pickup). Take care to prevent this when performing repairs.

1.2.1 Grounding to prevent damage by static electricity

Static electricity in the work area can destroy the optical pickup (laser diode) in devices such as CD players.

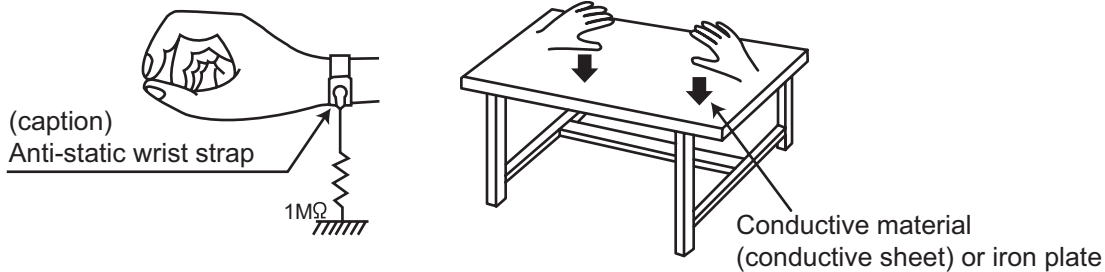
Be careful to use proper grounding in the area where repairs are being performed.

(1) Ground the workbench

Ground the workbench by laying conductive material (such as a conductive sheet) or an iron plate over it before placing the traverse unit (optical pickup) on it.

(2) Ground yourself

Use an anti-static wrist strap to release any static electricity built up in your body.



(3) Handling the optical pickup

- In order to maintain quality during transport and before installation, both sides of the laser diode on the replacement optical pickup are shorted. After replacement, return the shorted parts to their original condition. (Refer to the text.)
- Do not use a tester to check the condition of the laser diode in the optical pickup. The tester's internal power source can easily destroy the laser diode.

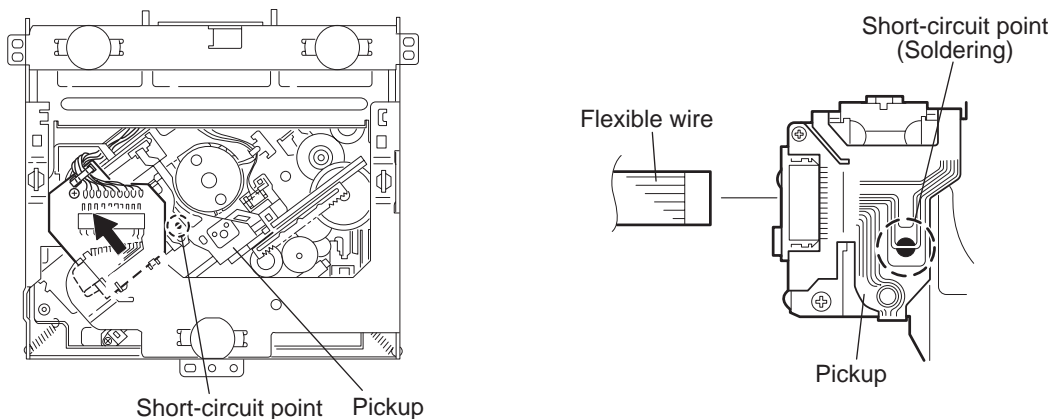
1.3 Handling the traverse unit (optical pickup)

- (1) Do not subject the traverse unit (optical pickup) to strong shocks, as it is a sensitive, complex unit.
- (2) Cut off the shorted part of the flexible cable using nippers, etc. after replacing the optical pickup. For specific details, refer to the replacement procedure in the text. Remove the anti-static pin when replacing the traverse unit. Be careful not to take too long a time when attaching it to the connector.
- (3) Handle the flexible cable carefully as it may break when subjected to strong force.
- (4) It is not possible to adjust the semi-fixed resistor that adjusts the laser power. Do not turn it.

1.4 Attention when traverse unit is decomposed

***Please refer to "Disassembly method" in the text for the CD pickup unit.**

- Apply solder to the short land before the flexible wire is disconnected from the connector on the CD pickup unit. (If the flexible wire is disconnected without applying solder, the CD pickup may be destroyed by static electricity.)
- In the assembly, be sure to remove solder from the short land after connecting the flexible wire.



SECTION 2

SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Main body

3.1.1 Removing the front panel assembly (See Fig.1)

- (1) Press the release button and remove the front panel assembly.

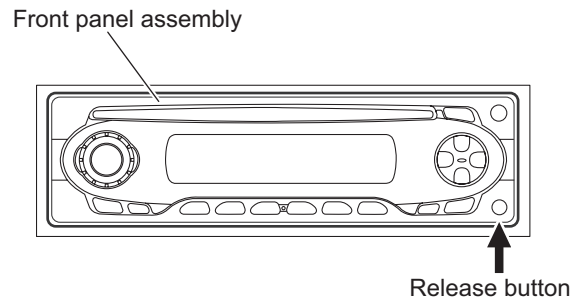


Fig.1

3.1.2 Removing the bottom cover (See Figs.2)

- (1) Turn over the main body and release the two joints **a**, two joints **b** and joint **c**.

CAUTION:

Do not damage the main board when releasing the joints using a screwdriver.

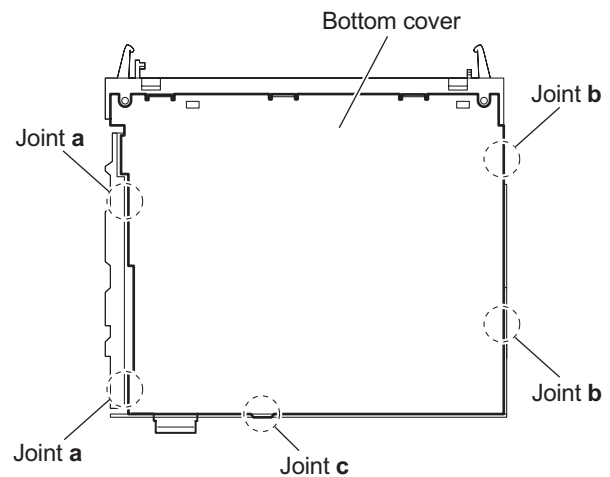


Fig.2

3.1.3 Removing the front chassis assembly (See Figs.3)

- Prior to performing the following procedure, remove the front panel assembly and bottom cover.
 - (1) Remove the screws **A** on the left side of the main body.
 - (2) Release the two joints **d** and joints **e** on the both sides of the main body, then remove the front chassis assembly toward the front.

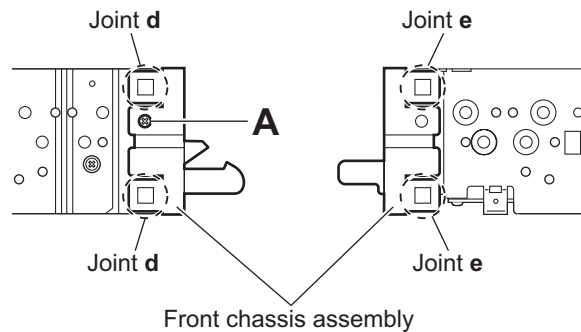


Fig.3

3.1.4 Removing the heat sink (See Fig.4)

- Prior to performing the following procedure, remove the front panel assembly as required.
 - (1) Remove the two screws **B** and screw **C** on the left side of the main body.

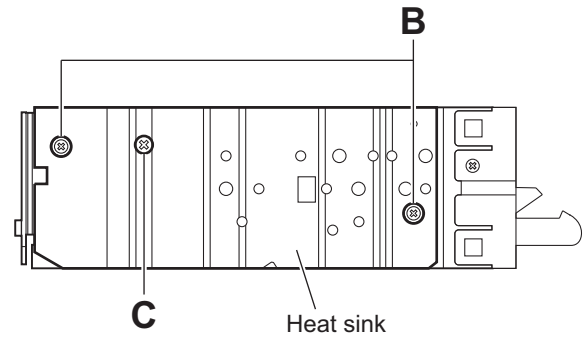


Fig.4

3.1.5 Removing the rear bracket (See Fig.5)

- Prior to performing the following procedures, remove the bottom cover.
 - (1) Remove the three screws **D**, three screws **E** and three screws **F** on the back side of the main body.
 - (2) Remove the rear bracket.

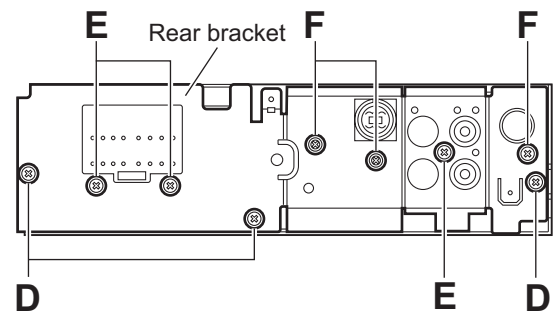


Fig.5

3.1.6 Removing the main board (See Fig.6)

- Prior to performing the following procedures, remove the front panel assembly, bottom cover, front chassis assembly, heat sink and rear bracket.
 - (1) Remove the two screws **G** attaching the main board.
 - (2) Disconnect the connector CN501 and remove the main board.

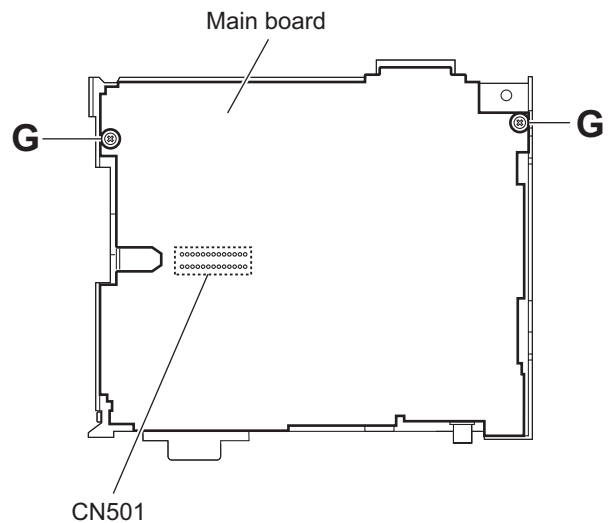


Fig.6

3.1.7 Removing the CD mechanism assembly (See Fig.7)

- Prior to performing the following procedure, remove the front panel assembly, bottom cover, front chassis assembly, heat sink, rear bracket and main board.
 - (1) Remove the three screws H attaching the CD mechanism assembly to the top chassis.

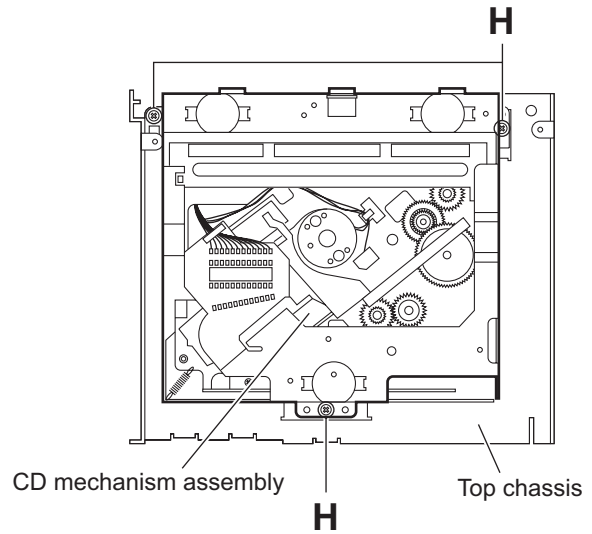


Fig.7

3.1.8 Removing the front board (See Figs. 8 to 10)

- Prior to performing the following procedures, remove the front panel assembly.
 - (1) Remove the four screws J on the back side of the front panel assembly. (See Fig.8.)
 - (2) Release the fourteen joints f attaching the rear cover to the front panel assembly. (See Fig.9.)
 - (3) Take out the front board from the front panel assembly. (See Fig.10.)

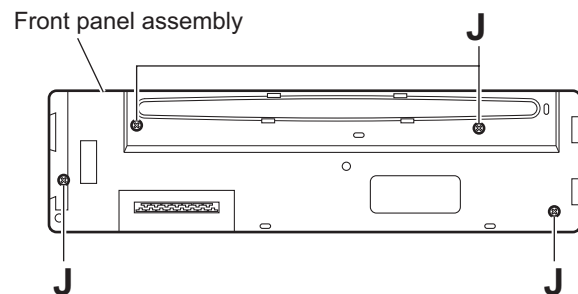


Fig.8

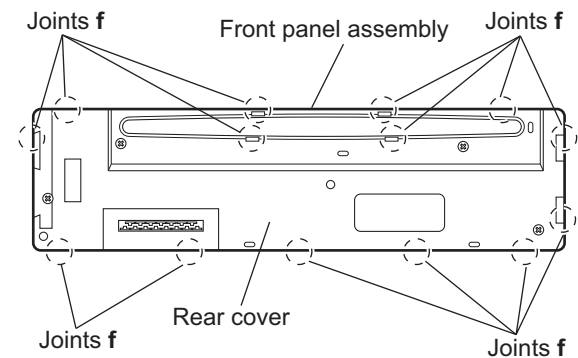


Fig.9

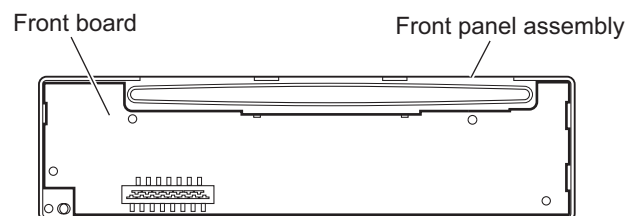


Fig.10

3.2 CD Mechanism Assembly

3.2.1 Removing the top cover

(See Figs.1 and 2)

- (1) Remove the two screws **A** on the both side of the body.
- (2) Lift the front side of the top cover and move the top cover backward to release the two joints **a**.

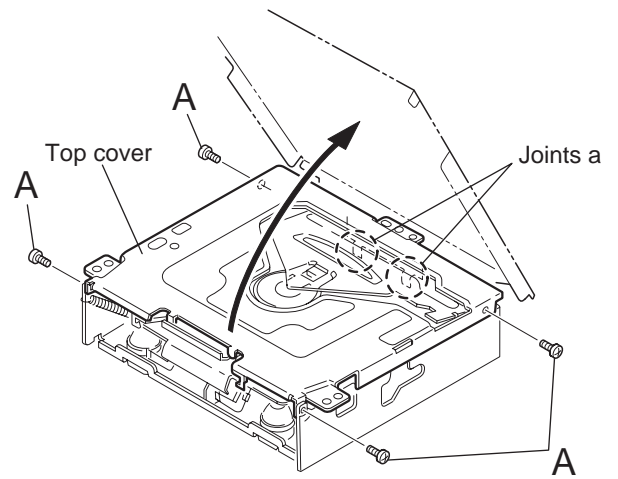


Fig.1

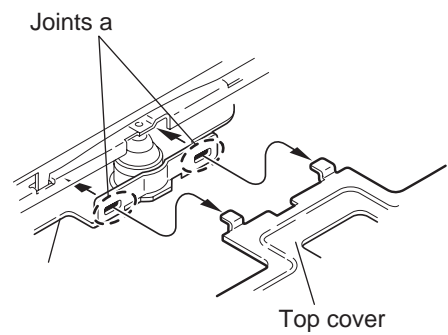


Fig.2

3.2.2 Removing the connector board (See Figs.3 to 5)

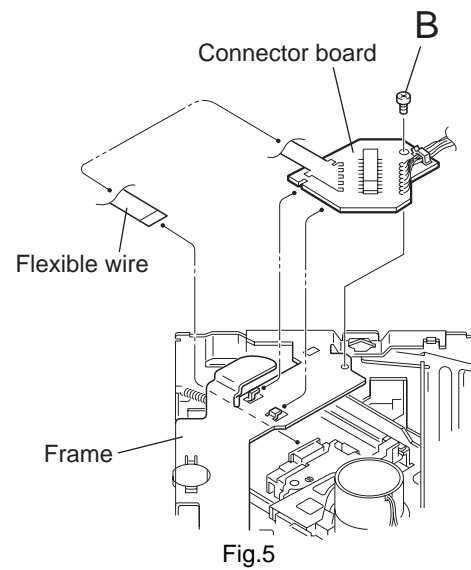
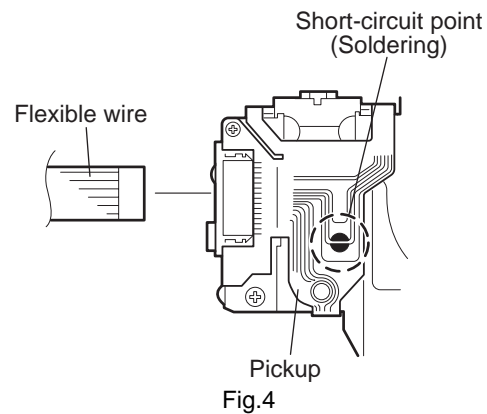
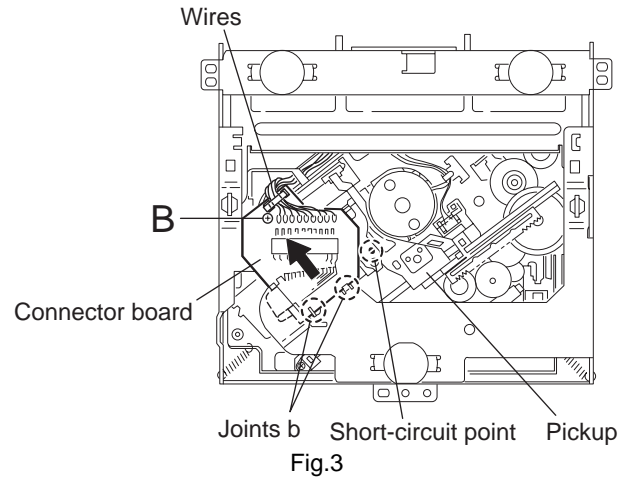
CAUTION:

Before disconnecting the flexible wire from the pickup, solder the short-circuit point on the pickup. No observance of this instruction may cause damage of the pickup.

- (1) Remove the screw **B** fixing the connector board.
- (2) Solder the short-circuit point on the connector board.
- (3) Disconnect the flexible wire from the pickup.
- (4) Move the connector board in the direction of the arrow to release the two joints **b**.
- (5) Unsolder the wire on the connector board if necessary.

CAUTION:

Unsolder the short-circuit point after reassembling.



3.2.3 Removing the DET switch (See Figs.6 and 7)

- (1) Extend the two tabs **c** of the feed sw. holder and pull out the switch.
- (2) Unsolder the DET switch wire if necessary.

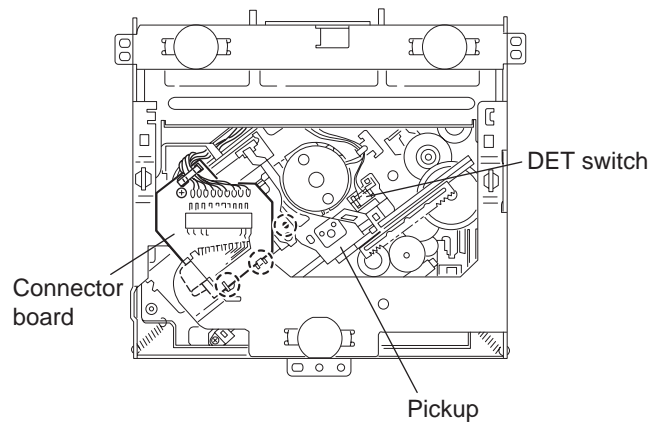


Fig.6

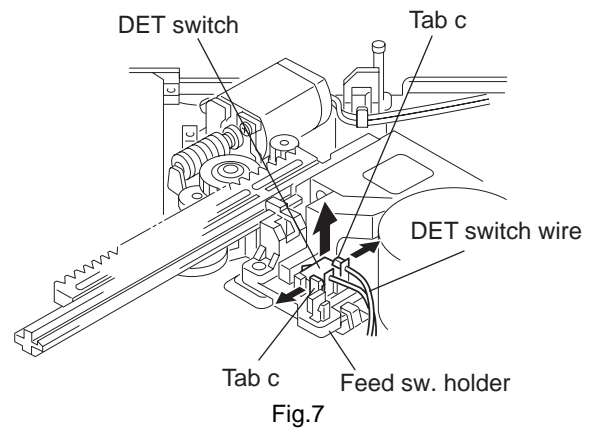


Fig.7

3.2.4 Removing the chassis unit (See Figs.8 and 9)

- Prior to performing the following procedure, remove the top cover and connector board.
(1) Remove the two suspension springs (L) and (R) attaching the chassis unit to the frame.

CAUTION:

- The shape of the suspension spring (L) and (R) are different. Handle them with care.
- When reassembling, make sure that the three shafts on the underside of the chassis unit are inserted to the dampers certainly.

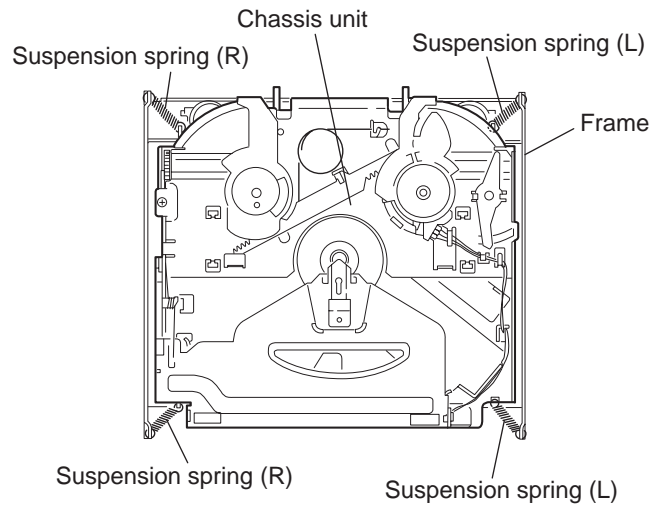


Fig.8

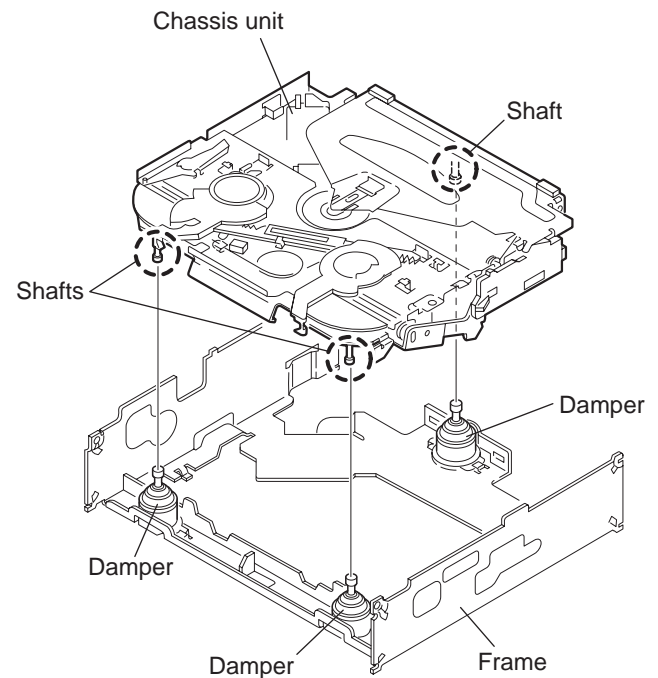
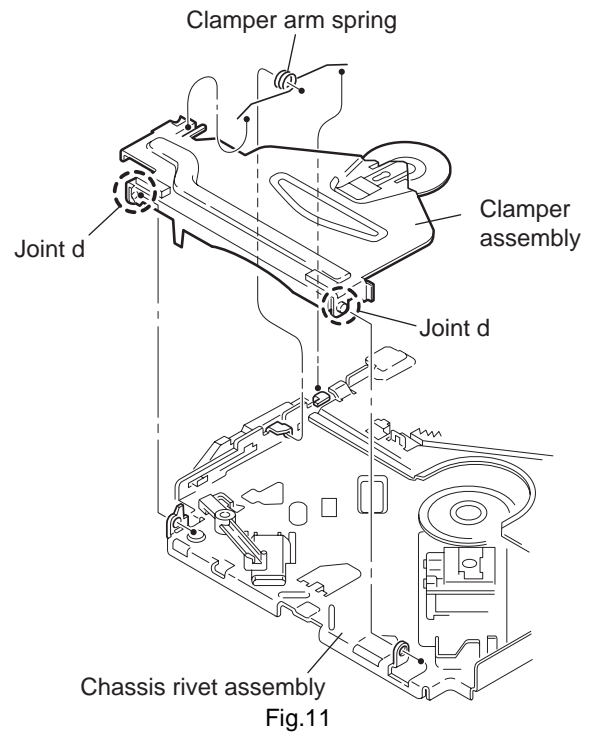
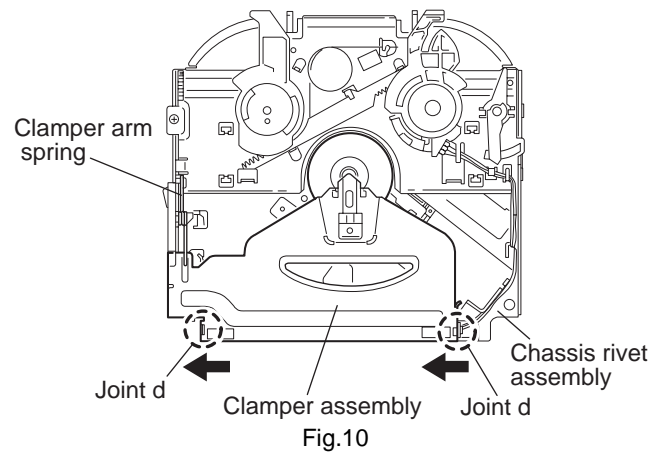


Fig.9

3.2.5 Removing the clumper assembly (See Figs.10 and 11)

- Prior to performing the following procedure, remove the top cover.
 - (1) Remove the clumper arm spring.
 - (2) Move the clumper assembly in the direction of the arrow to release the two joints **d**.

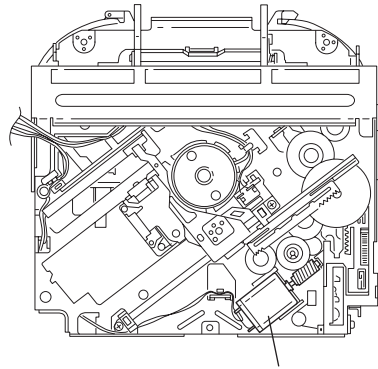


3.2.6 Removing the loading / feed motor assembly (See Figs.12 and 13)

- Prior to performing the following procedure, remove the top cover, connector board and chassis unit.
 - (1) Remove the screw **C** and move the loading / feed motor assembly in the direction of the arrow to remove it from the chassis rivet assembly.
 - (2) Disconnect the wire from the loading / feed motor assembly if necessary.

CAUTION:

When reassembling, connect the wire from the loading / feed motor assembly to the flame as shown in Fig.12.



Loading / feed motor assembly

Fig.12

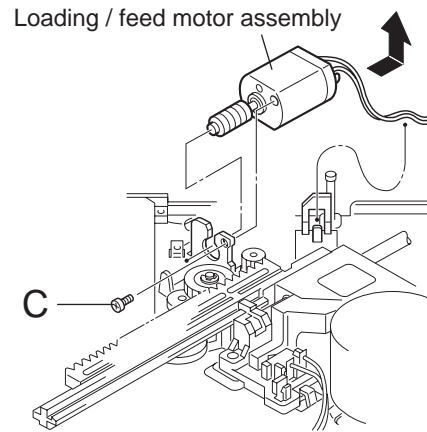


Fig.13

3.2.7 Removing the pickup unit (See Figs.14 to 18)

- Prior to performing the following procedure, remove the top cover, connector board and chassis unit.
- (1) Remove the screw **D** and pull out the pu. shaft holder from the pu. shaft.
- (2) Remove the screw **E** attaching the feed sw. holder.
- (3) Move the part **e** of the pickup unit upward with the pu. shaft and the feed sw. holder, then release the joint **f** of the feed sw. holder in the direction of the arrow. The joint **g** of the pickup unit and the feed rack is released, and the feed sw. holder comes off.
- (4) Remove the pu. shaft from the pickup unit.
- (5) Remove the screw **F** attaching the feed rack to the pickup unit.

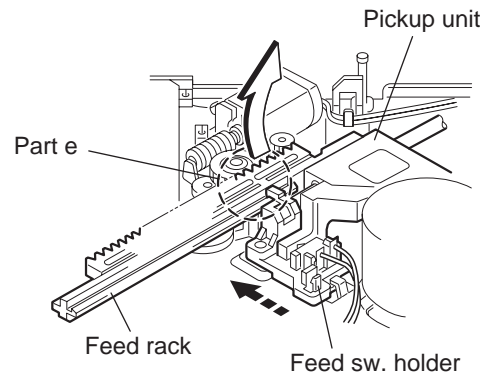


Fig.15

3.2.8 Reattaching the pickup unit (See Figs.14 to 17)

- (1) Reattach the feed rack to the pickup unit using the screw **F**.
- (2) Reattach the feed sw. holder to the feed rack while setting the joint **g** to the slot of the feed rack and setting the part **f** of the feed rack to the switch of the feed sw. holder correctly.
- (3) As the feed sw. holder is temporarily attached to the pickup unit, set to the gear of the joint **g** and to the bending part of the chassis (joint **h**) at a time.

CAUTION:

Make sure that the part **i** on the underside of the feed rack is certainly inserted to the slot **j** of the change lock lever.

- (4) Reattach the feed sw. holder using the screw **E**.
- (5) Reattach the pu. shaft to the pickup unit. Reattach the pu. shaft holder to the pu. shaft using the screw **D**.

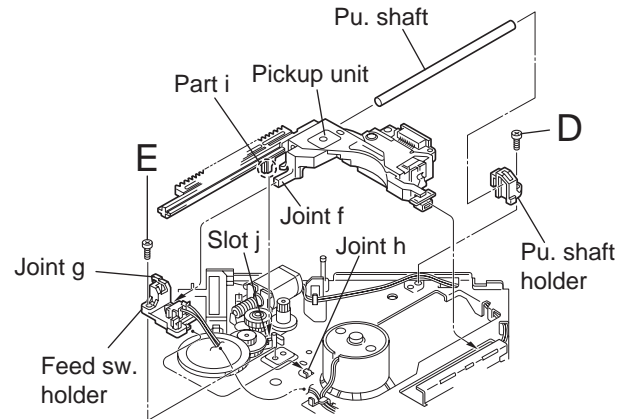


Fig.16

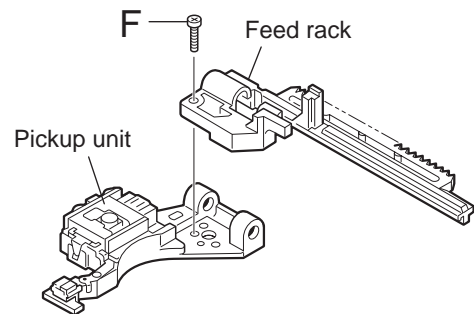


Fig.17

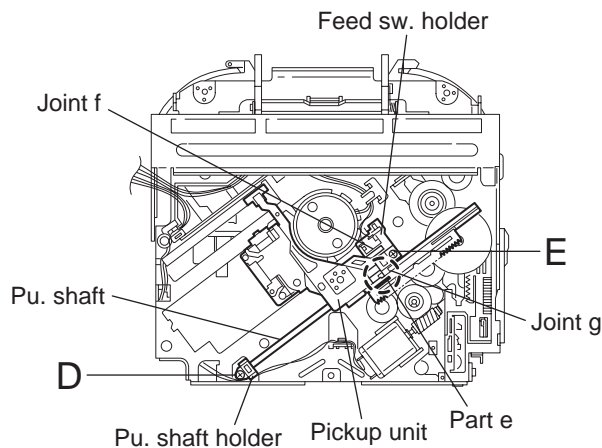


Fig.14

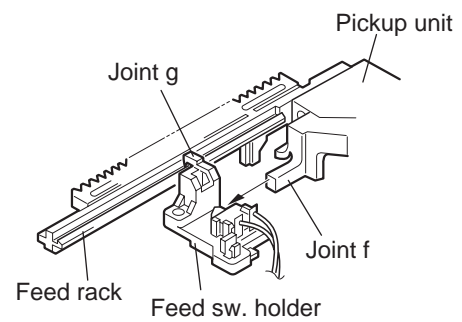


Fig.18

3.2.9 Removing the trigger arm (See Figs.19 and 20)

- Prior to performing the following procedure, remove the top cover, connector board and clamber unit.
- (1) Turn the trigger arm in the direction of the arrow to release the joint k and pull out upward.

CAUTION:

When reassembling, insert the part m and n of the trigger arm into the part p and q at the slot of the chassis rivet assembly respectively and join the joint k at a time.

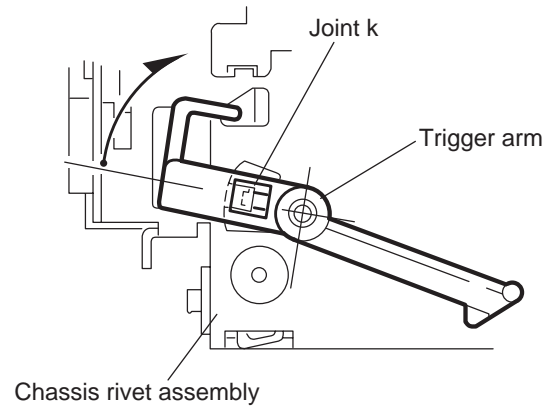


Fig.19

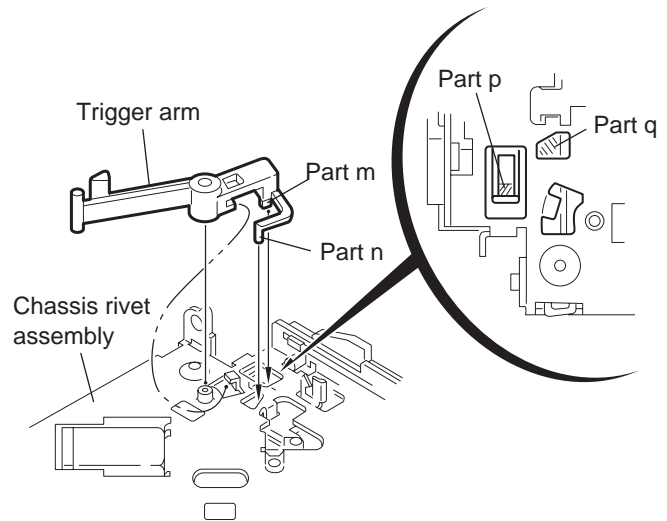


Fig.20

3.2.10 Removing the top plate assembly (See Fig.21)

- Prior to performing the following procedure, remove the top cover, connector board, chassis unit, and clamber assembly.
- (1) Remove the screw H.
- (2) Move the top plate assembly in the direction of the arrow to release the two joints r.
- (3) Unsolder the wire marked s if necessary.

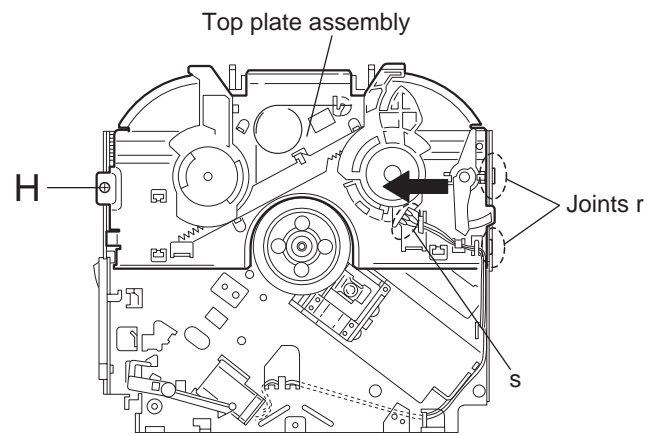


Fig.21

3.2.11 Removing the mode sw. / select lock arm (See Figs.22 and 23)

- Prior to performing the following procedure, remove the top plate assembly.
 - (1) Bring up the mode sw. to release from the link plate (joint **t**) and turn in the direction of the arrow to release the joint **u**.
 - (2) Unsolder the wire of the mode sw. marked **s** if necessary.
 - (3) Turn the select lock arm in the direction of the arrow to release the two joints **v**.
 - (4) The select lock arm spring comes off the select lock arm at the same time.

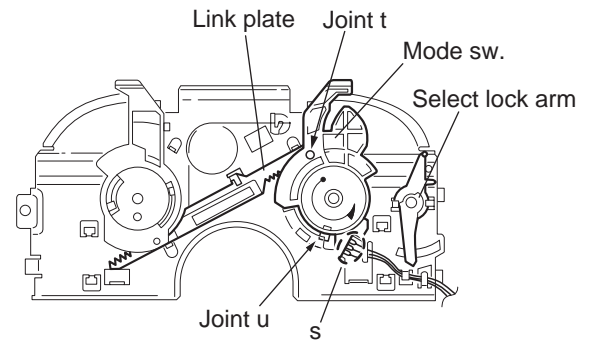


Fig.22

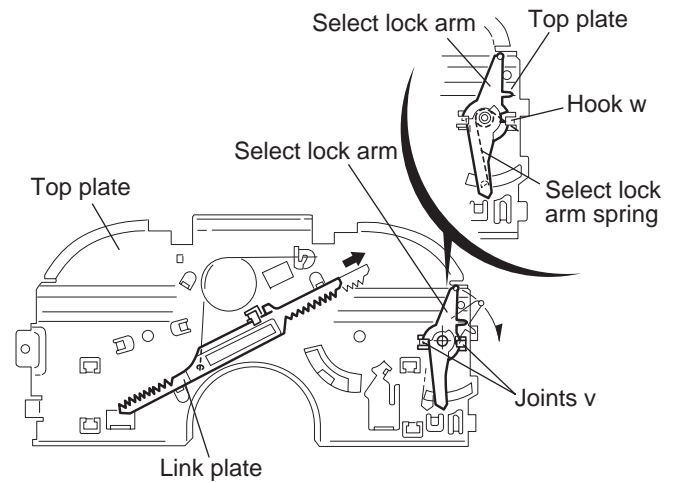


Fig.23

3.2.12 Reassembling the mode sw. / select lock arm (See Figs.24 to 26)

REFERENCE:

Reverse the above removing procedure.

- (1) Reattach the select lock arm spring to the top plate and set the shorter end of the select lock arm spring to the hook w on the top plate.
- (2) Set the other longer end of the select lock arm spring to the boss x on the underside of the select lock arm, and join the select lock arm to the slots (joint v). Turn the select lock arm as shown in the figure.
- (3) Reattach the mode sw. while setting the part t to the first peak of the link plate gear, and join the joint u.

CAUTION:

When reattaching the mode sw., check if the points y and z are correctly fitted and if each part operates properly.

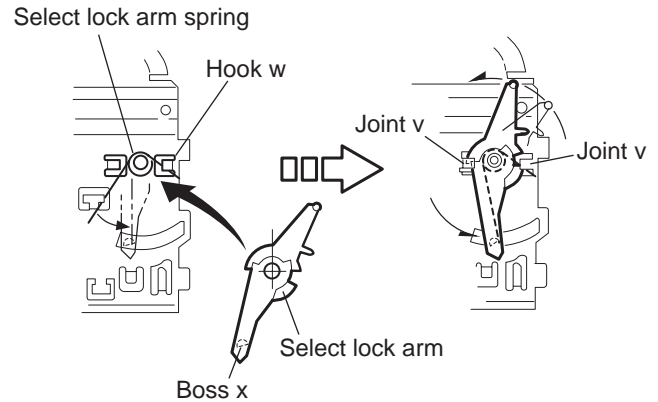


Fig.24

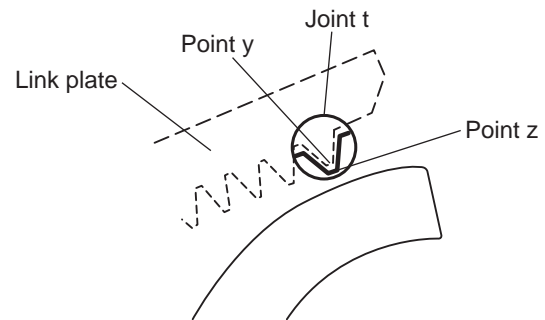


Fig.25

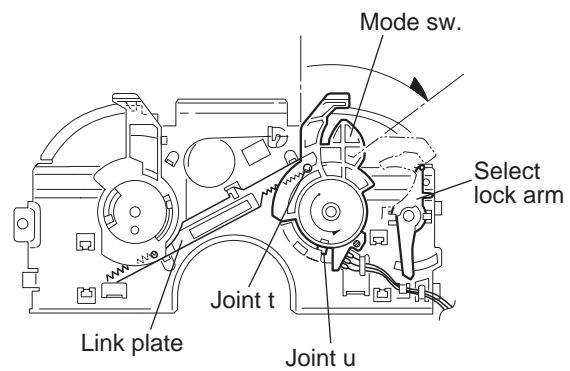


Fig.26

3.2.13 Removing the select arm R / link plate (See Figs.27 and 28)

- Prior to performing the following procedure, remove the top plate assembly.
 - (1) Bring up the select arm R to release from the link plate (joint a') and turn as shown in the figure to release the two joints b' and joint c'.
 - (2) Move the link plate in the direction of the arrow to release the joint d'. Remove the link plate spring at the same time.

REFERENCE:

Before removing the link plate, remove the mode sw..

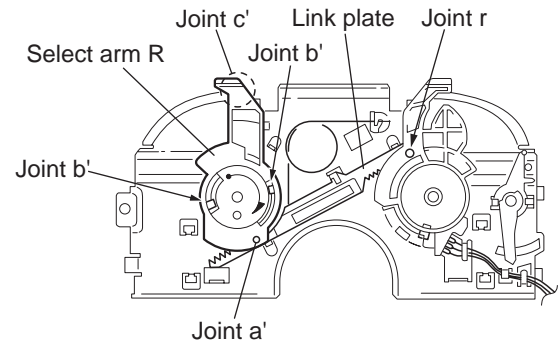


Fig.27

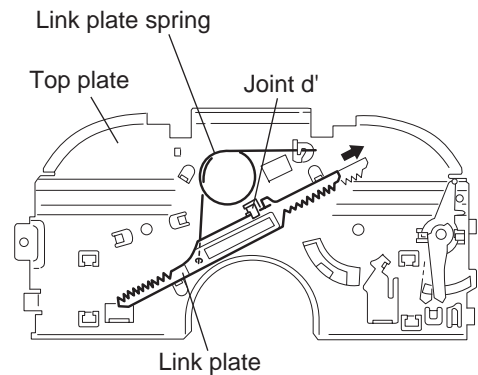


Fig.28

3.2.14 Reattaching the Select arm R / link plate (See Figs.29 and 30)

REFERENCE:

Reverse the above removing procedure.

- (1) Reattach the link plate spring.
- (2) Reattach the link plate to the link plate spring while joining them at joint d'.
- (3) Reattach the joint a' of the select arm R to the first peak of the link plate while joining the two joints b' with the slots. Then turn the select arm R as shown in the figure. The top plate is joined to the joint c'.

CAUTION:

When reattaching the select arm R, check if the points e' and f' are correctly fitted and if each part operates properly.

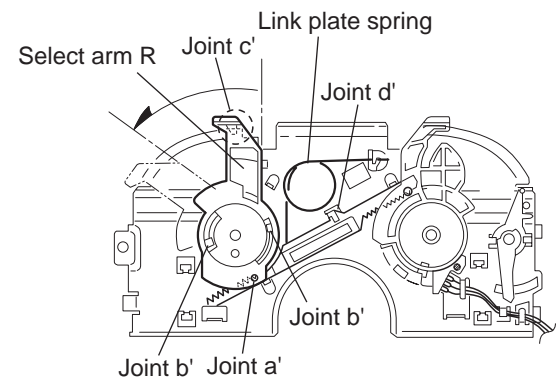


Fig.29

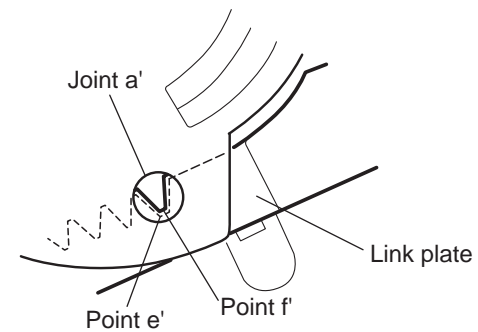


Fig.30

3.2.15 Removing the loading roller assembly (See Figs.31 to 33)

- Prior to performing the following procedure, remove the clamper assembly and top plate assembly.
 - (1) Push inward the loading roller assembly on the gear side and detach it upward from the slot of the joint **g'** of the lock arm rivet assembly.
 - (2) Detach the loading roller assembly from the slot of the joint **h'** of the lock arm rivet assembly.

The roller guide comes off the gear section of the loading roller assembly.

Remove the roller guide and the HL washer from the shaft of the loading roller assembly.

- (3) Remove the screw **J** attaching the lock arm rivet assembly.
- (4) Push the shaft at the joint **i'** of the lock arm rivet assembly inward to release the lock arm rivet assembly from the slot of the L side plate.
- (5) Extend the lock arm rivet assembly outward and release the joint **j'** from the boss of the chassis rivet assembly. The roller guide springs on both sides come off at the same time.

CAUTION:

When reassembling, reattach the left and right roller guide springs to the lock arm rivet assembly before reattaching the lock arm rivet assembly to the chassis rivet assembly. Make sure to fit the part **k'** of the roller guide spring inside of the roller guide. (Refer to Fig.34.)

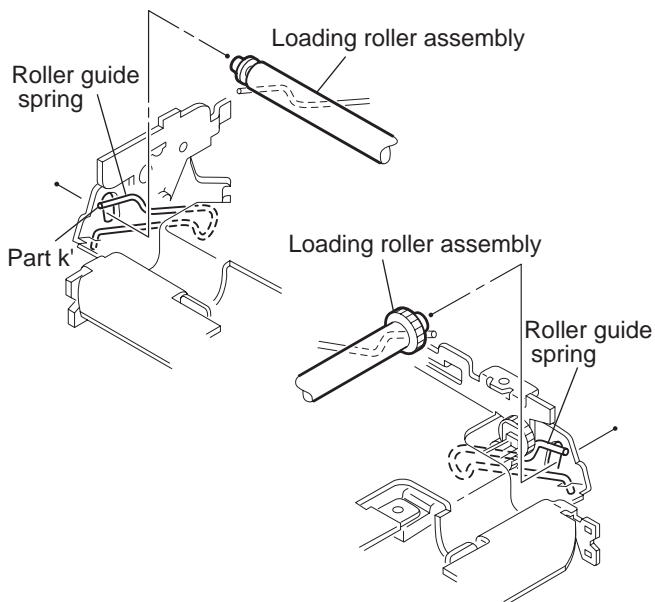


Fig.32

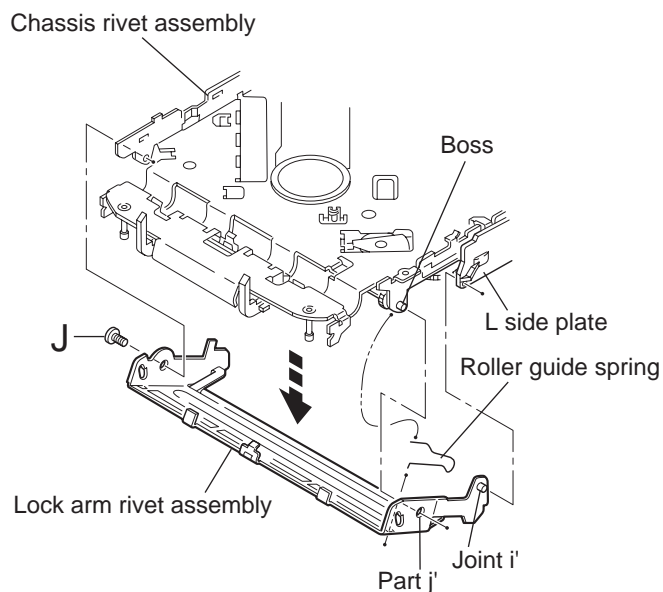


Fig.33

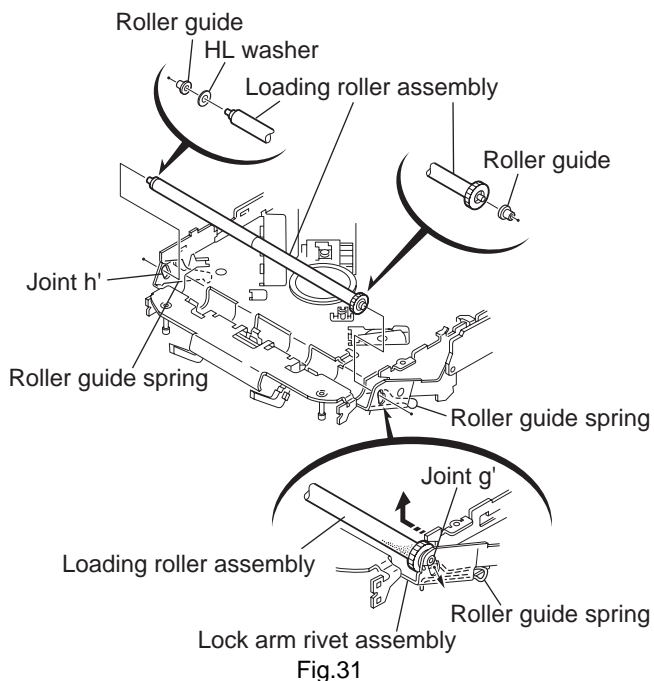


Fig.31

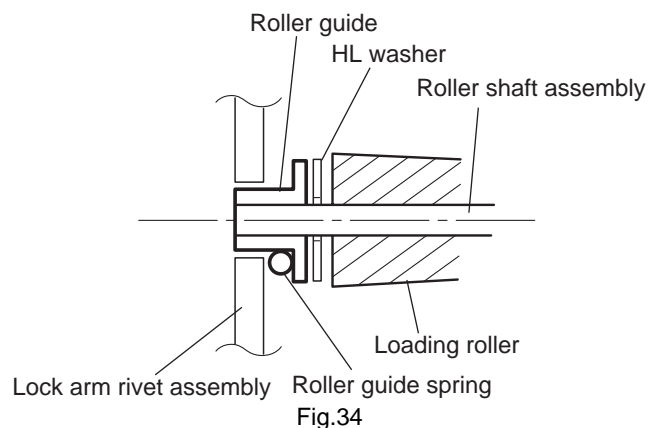
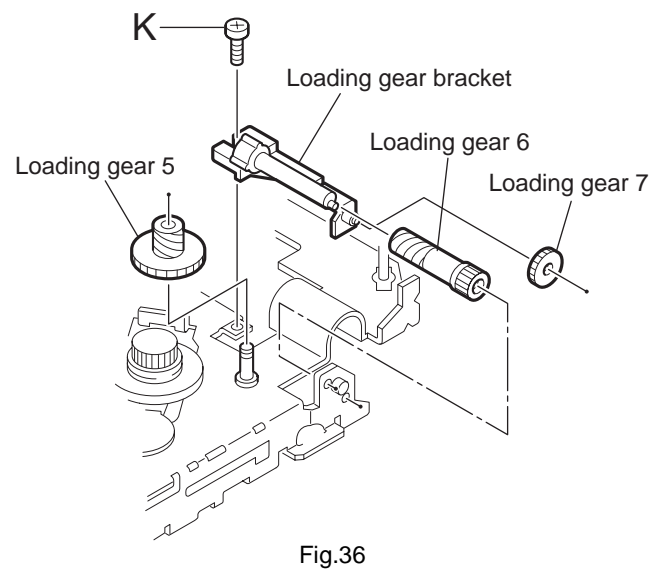
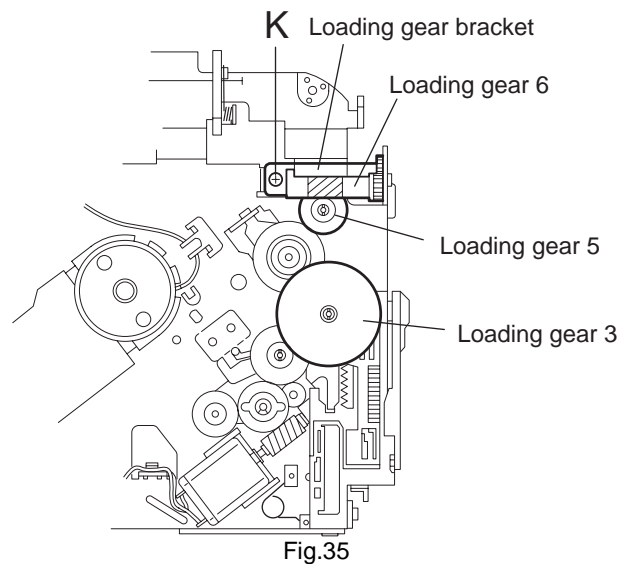


Fig.34

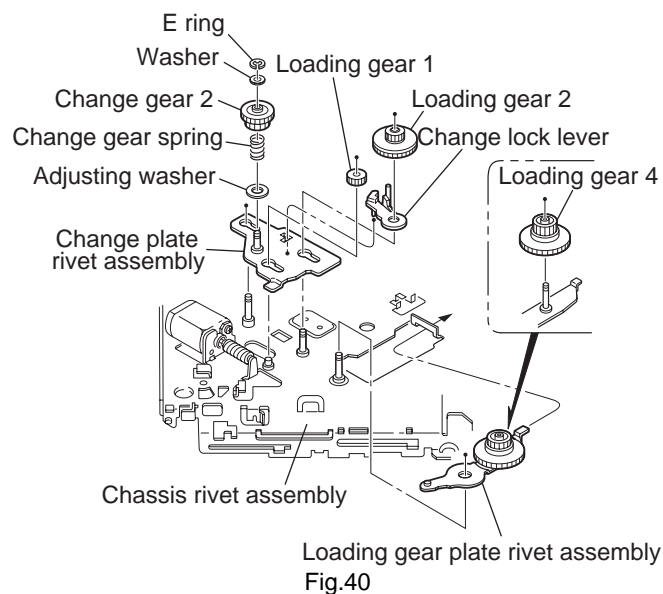
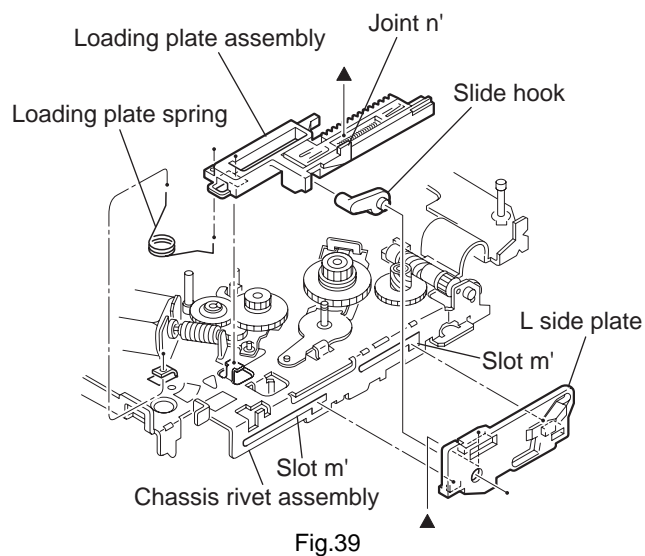
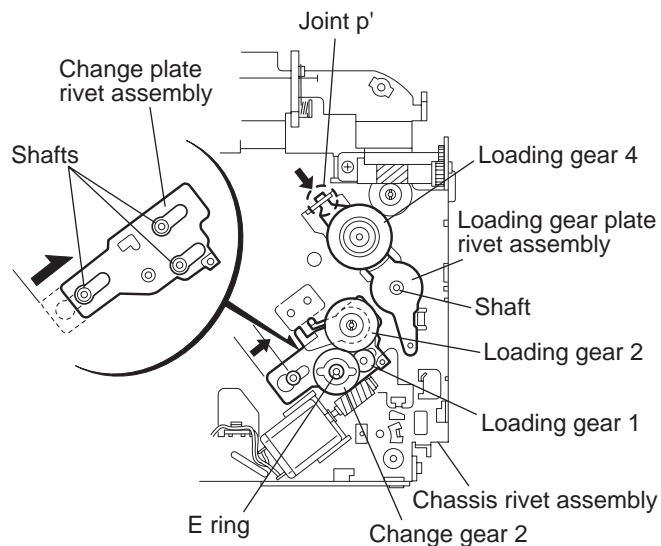
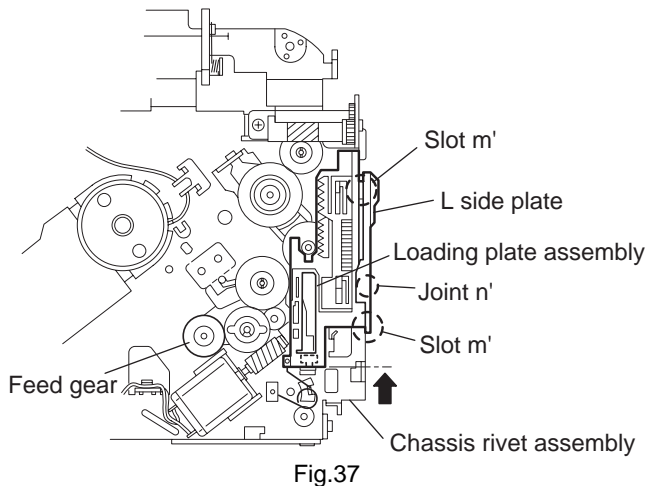
3.2.16 Removing the loading gear 5, 6 and 7 (See Figs.35 and 36)

- Prior to performing the following procedure, remove the top cover, chassis unit, pickup unit and top plate assembly.
 - (1) Remove the screw **K** attaching the loading gear bracket.
The loading gear 6 and 7 come off the loading gear bracket.
 - (2) Pull out the loading gear 5.



3.2.17 Removing the gears (See Figs.37 to 40)

- Prior to performing the following procedure, remove the top cover, chassis unit, top plate assembly and pickup unit.
- Pull out the loading gear 3. (See Fig.35.)
 - (1) Pull out the feed gear.
 - (2) Move the loading plate assembly in the direction of the arrow to release the L side plate from the two slots m' of the chassis rivet assembly. (See Fig.37.)
 - (3) Detach the loading plate assembly upward from the chassis rivet assembly while releasing the joint n'. Remove the slide hook and loading plate spring from the loading plate assembly.
 - (4) Pull out the loading gear 2 and remove the change lock lever.
 - (5) Remove the E ring and washer attaching the changer gear 2.
 - (6) The changer gear 2, change gear spring and adjusting washer come off.
 - (7) Remove the loading gear 1.
 - (8) Move the change plate rivet assembly in the direction of the arrow to release from the three shafts of the chassis rivet assembly upward. (See Fig.38.)
 - (9) Detach the loading gear plate rivet assembly from the shaft of the chassis rivet assembly upward while releasing the joint p'. (See Figs.38 and 40.)
 - (10) Pull out the loading gear 4.



3.2.18 Removing the turn table / spindle motor (See Figs.41 and 42)

- Prior to performing the following procedure, remove the top cover, connector board, chassis unit and clamper assembly.
 - (1) Remove the two screws **L** attaching the spindle motor assembly through the slot of the turn table on top of the body.
 - (2) Unsolder the wire on the connector board if necessary.

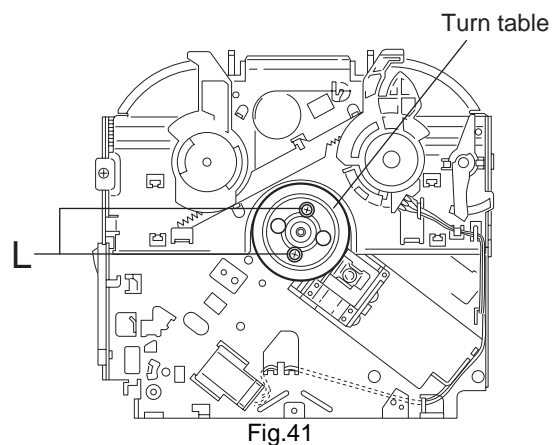


Fig.41

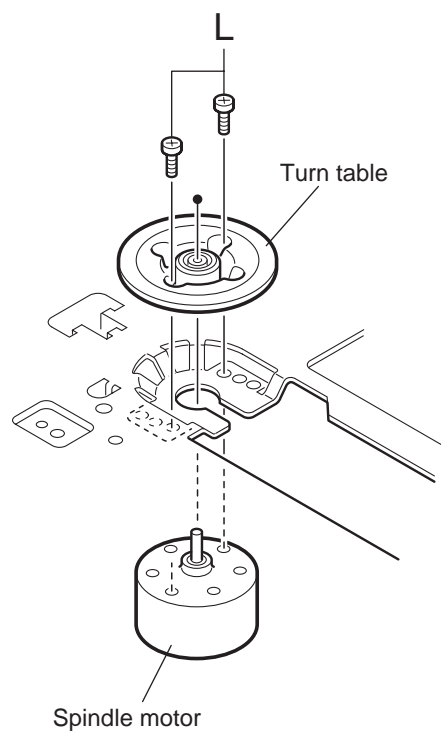


Fig.42

SECTION 4 ADJUSTMENT

4.1 Adjustment method

■ Test instruments required for adjustment

- (1) Digital oscilloscope (100MHz)
- (2) AM Standard signal generator
- (3) FM Standard signal generator
- (4) Stereo modulator
- (5) Electric voltmeter
- (6) Digital tester
- (7) Tracking offset meter
- (8) Test Disc JVC :CTS-1000
- (9) Extension cable for check
EXTSH002-22P × 1

■ Standard volume position

Balance and Bass & Treble volume : Indication "0"
Loudness : OFF

■ How to connect the extension cable for adjusting

Caution:

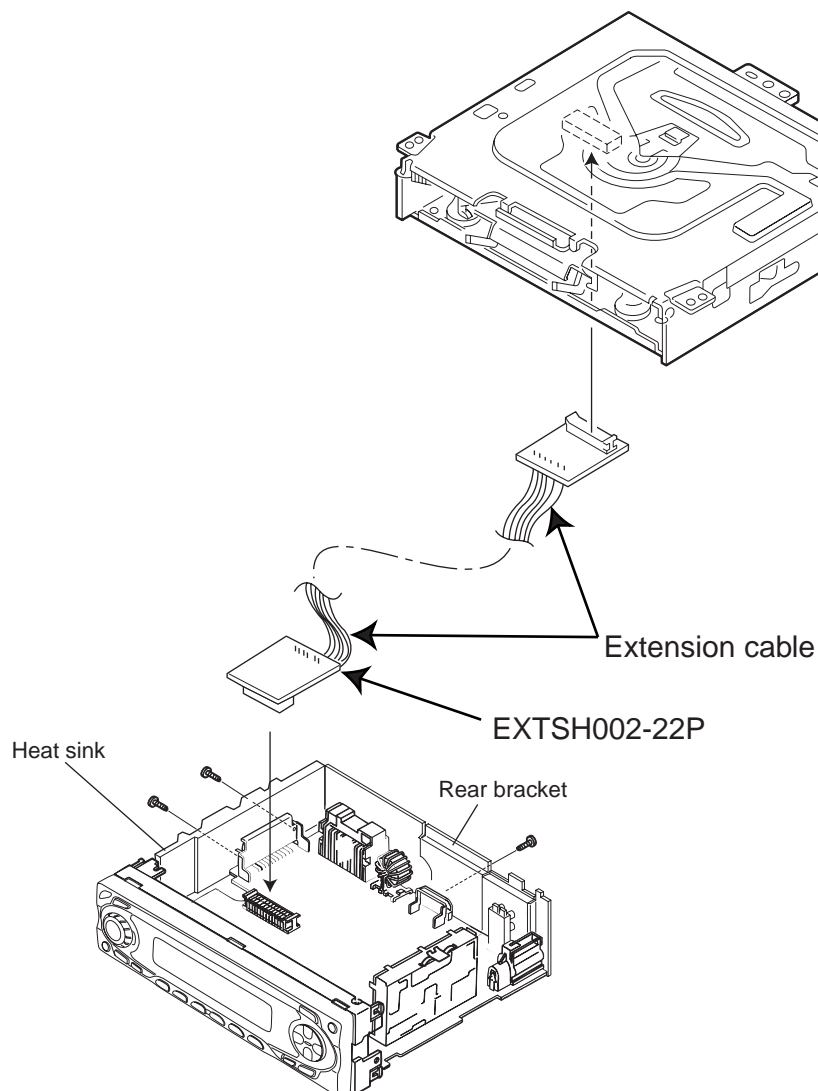
Be sure to attach the heat sink and rear bracket onto the power amplifier IC and regulator IC respectively, before supply the power.
If voltage is applied without attaching these parts, the power amplifier IC and regulator IC will be destroyed by heat.

■ Standard measuring conditions

Power supply voltage	DC14.4V(11 to 16V)
Load impedance	20K Ω (2 Speakers connection)
Output Level	Line out 2.0V (Vol. MAX)

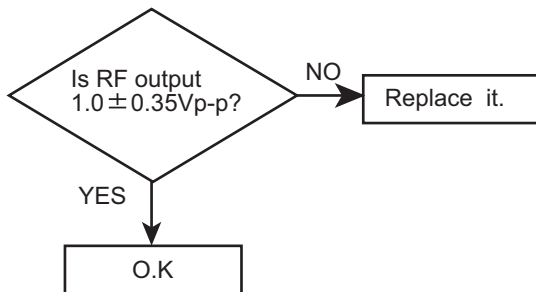
■ Dummy load

Exclusive dummy load should be used for AM, and FM. For FM dummy load, there is a loss of 6dB between SSG output and antenna input. The loss of 6dB need not be considered since direct reading of figures are applied in this working standard.



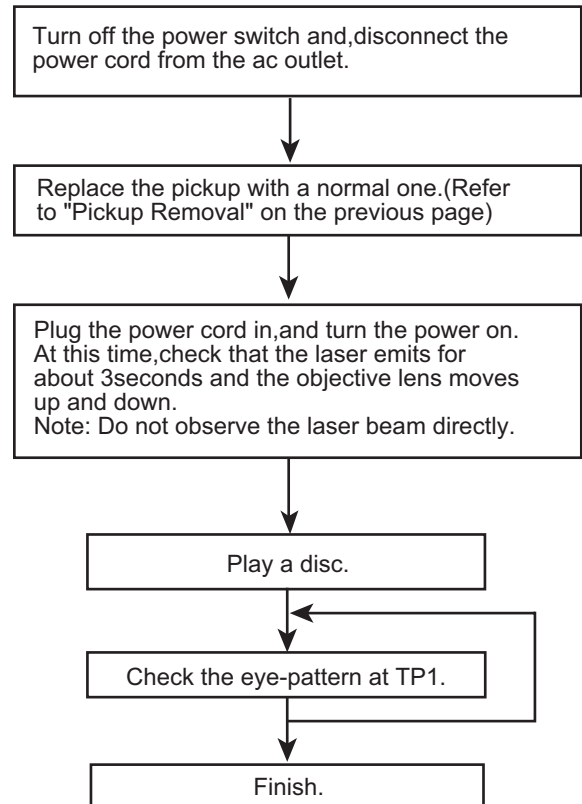
4.2 Maintenance of laser pickup

- (1) Cleaning the pick up lens
Before you replace the pick up, please try to clean the lens with a alcohol soaked cotton swab.
- (2) Life of the laser diode
When the life of the laser diode has expired, the following symptoms will appear.
 - The level of RF output (EFM output: amplitude of eye pattern) will be low.



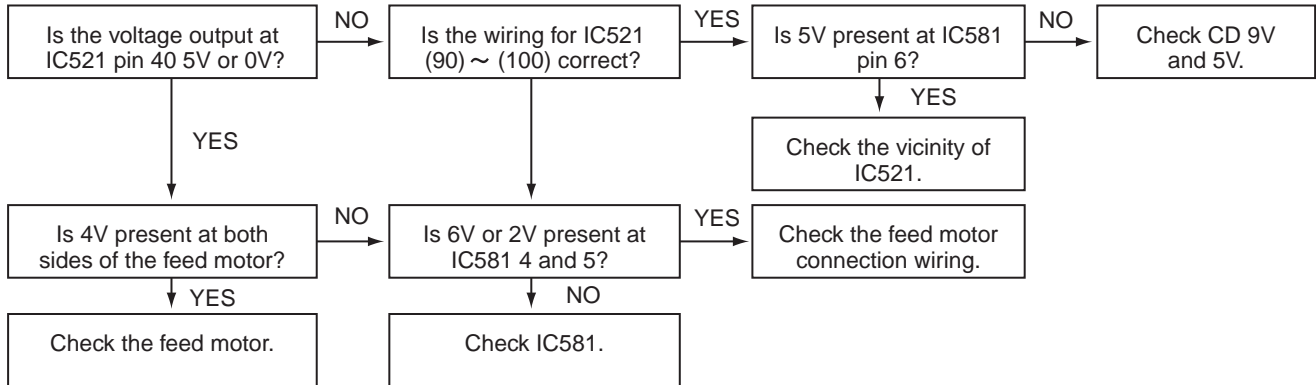
- (3) Semi-fixed resistor on the APC PC board
The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.
If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced. If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

4.3 Replacement of laser pickup

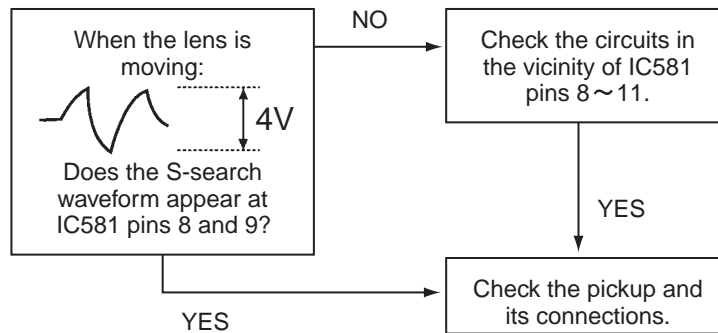


SECTION 5 TROUBLE SHOOTING

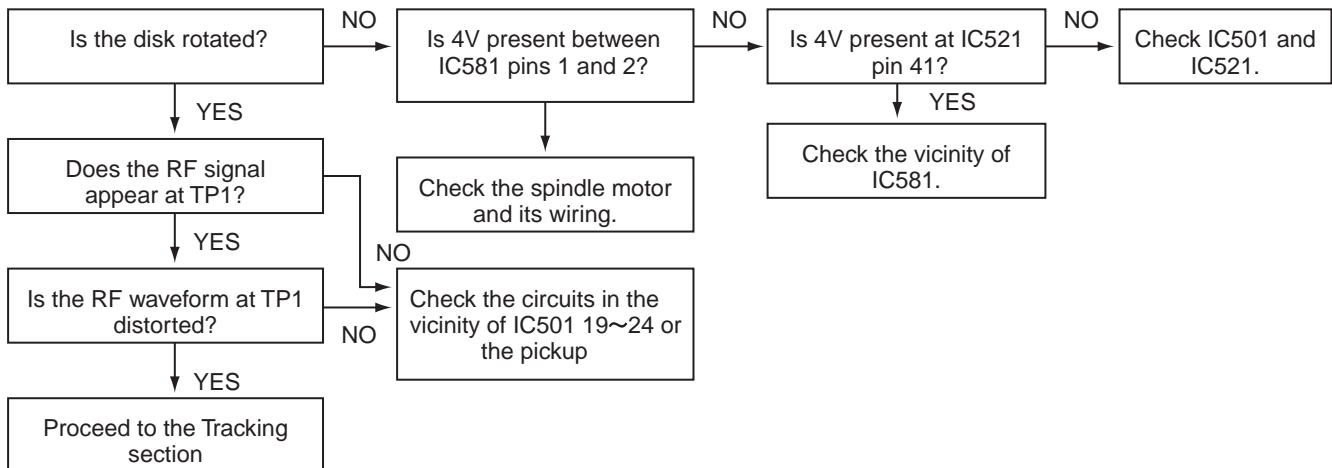
5.1 Feed section



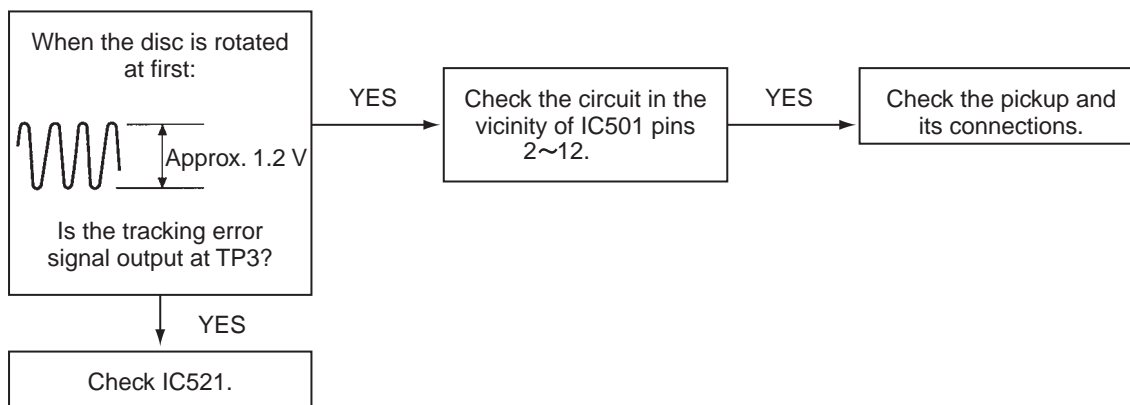
5.2 Focus section



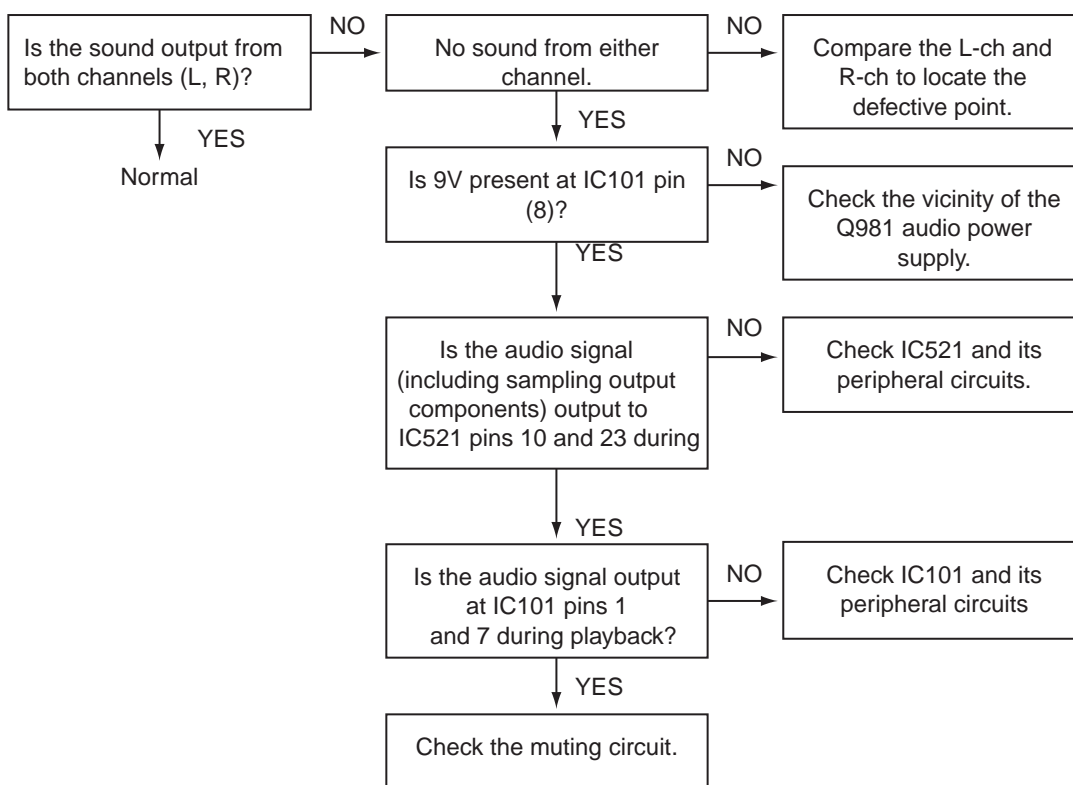
5.3 Spindle section



5.4 Tracking section



5.5 Signal processing section

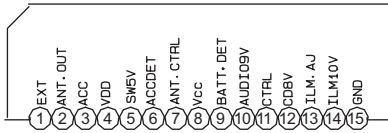


SECTION 6

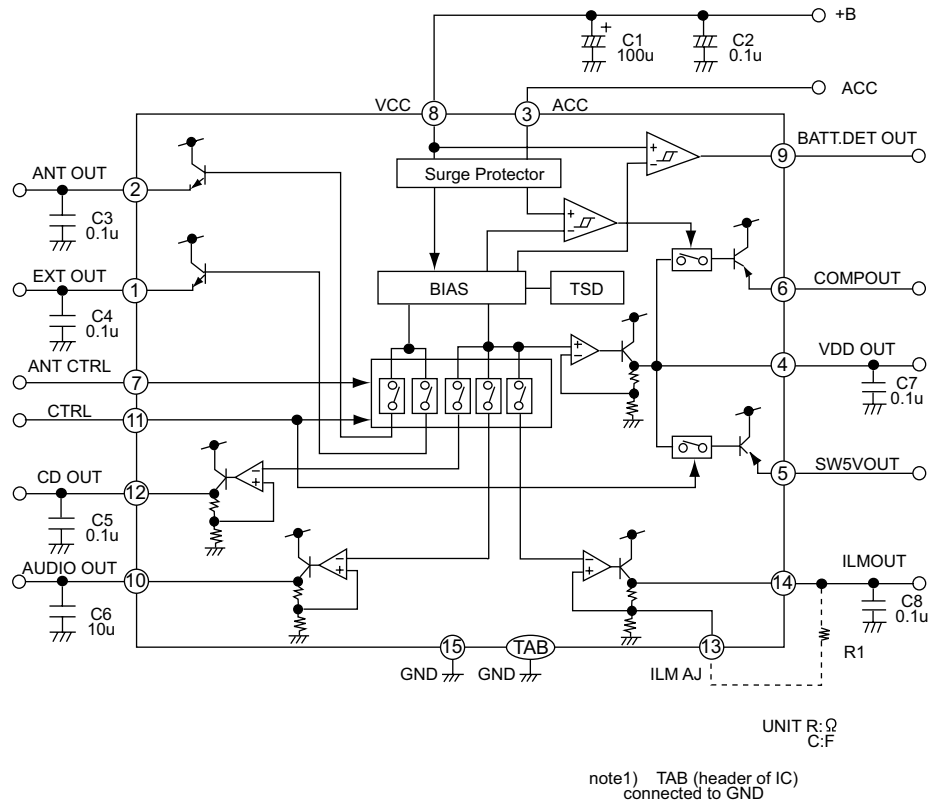
DESCRIPTION OF MAJOR ICs

6.1 HA13164A (IC911) : Regulator

- Terminal layout



- Block diagram

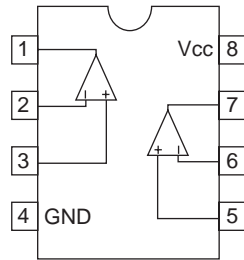


- Pin function

Pin No.	Symbol	Function
1	EXTOUT	Output voltage is VCC-1 V when M or H level applied to CTRL pin.
2	ANTOUT	Output voltage is VCC-1 V when M or H level to CTRL pin and H level to ANT-CTRL.
3	ACCIN	Connected to ACC.
4	VDDOUT	Regular 5.7V.
5	SW5VOUT	Output voltage is 5V when M or H level applied to CTRL pin.
6	COMPOUT	Output for ACC detector.
7	ANT CTRL	L:ANT output OFF H:ANT output ON
8	VCC	Connected to VCC.
9	BATT DET	Low battery detect.
10	AUDIO OUT	Output voltage is 9V when M or H level applied to CTRL pin.
11	CTRL	L:BIAS OFF M:BIAS ON H:CD ON
12	CD OUT	Output voltage is 8V when H level applied to CTRL pin.
13	ILM AJ	Adjustment pin for ILM output voltage.
14	ILM OUT	Output voltage is 10V when M or H level applied to CTRL pin.
15	GND	Connected to GND.

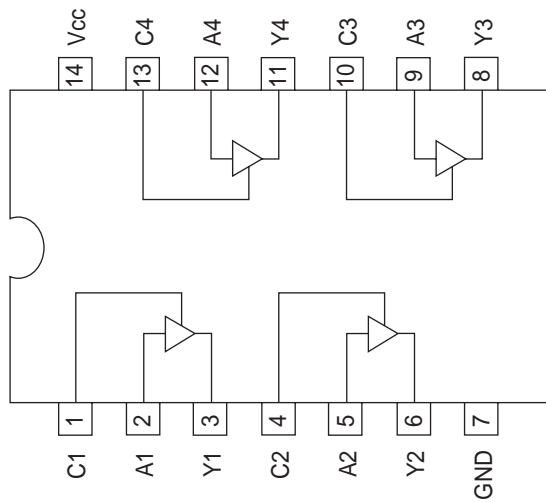
6.2 HA17558F (IC571) : Ope. amp.

- Pin layout & Block diagram



6.3 MM74HC126SJ-X (IC691) : 3-state Quad buffer

- Pin layout & Block diagram

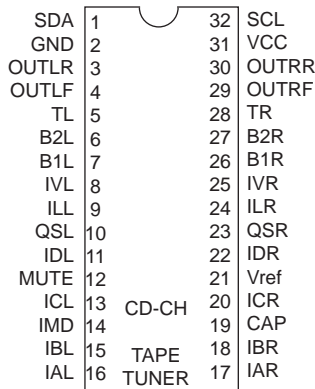


- Truth table

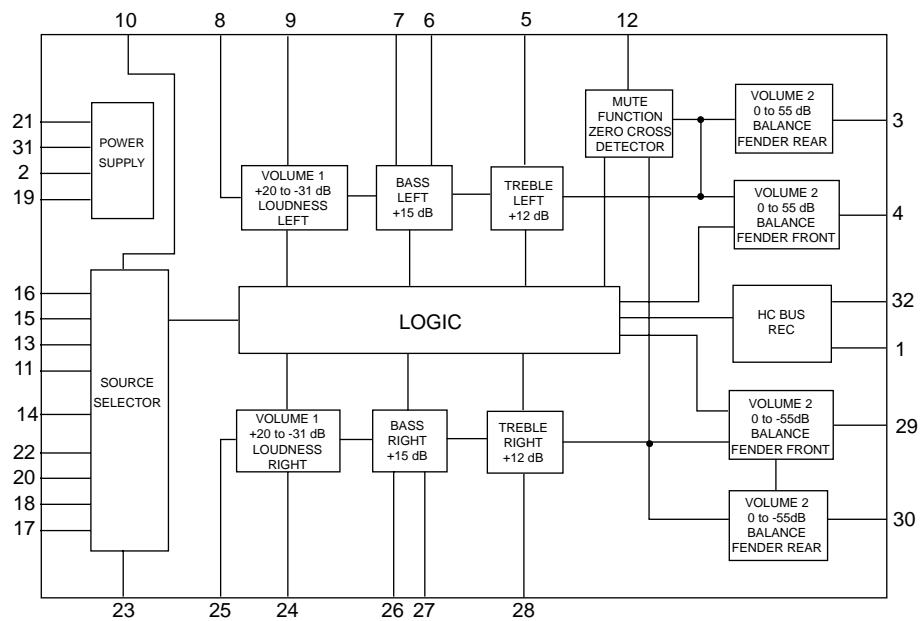
INPUT		OUTPUT
A	C	Y
H	H	H
L	H	L
X	L	Z

H : High level
 L : Low level
 X : Don't care
 Z : Hi-Z

- Pin layout



- Block diagram



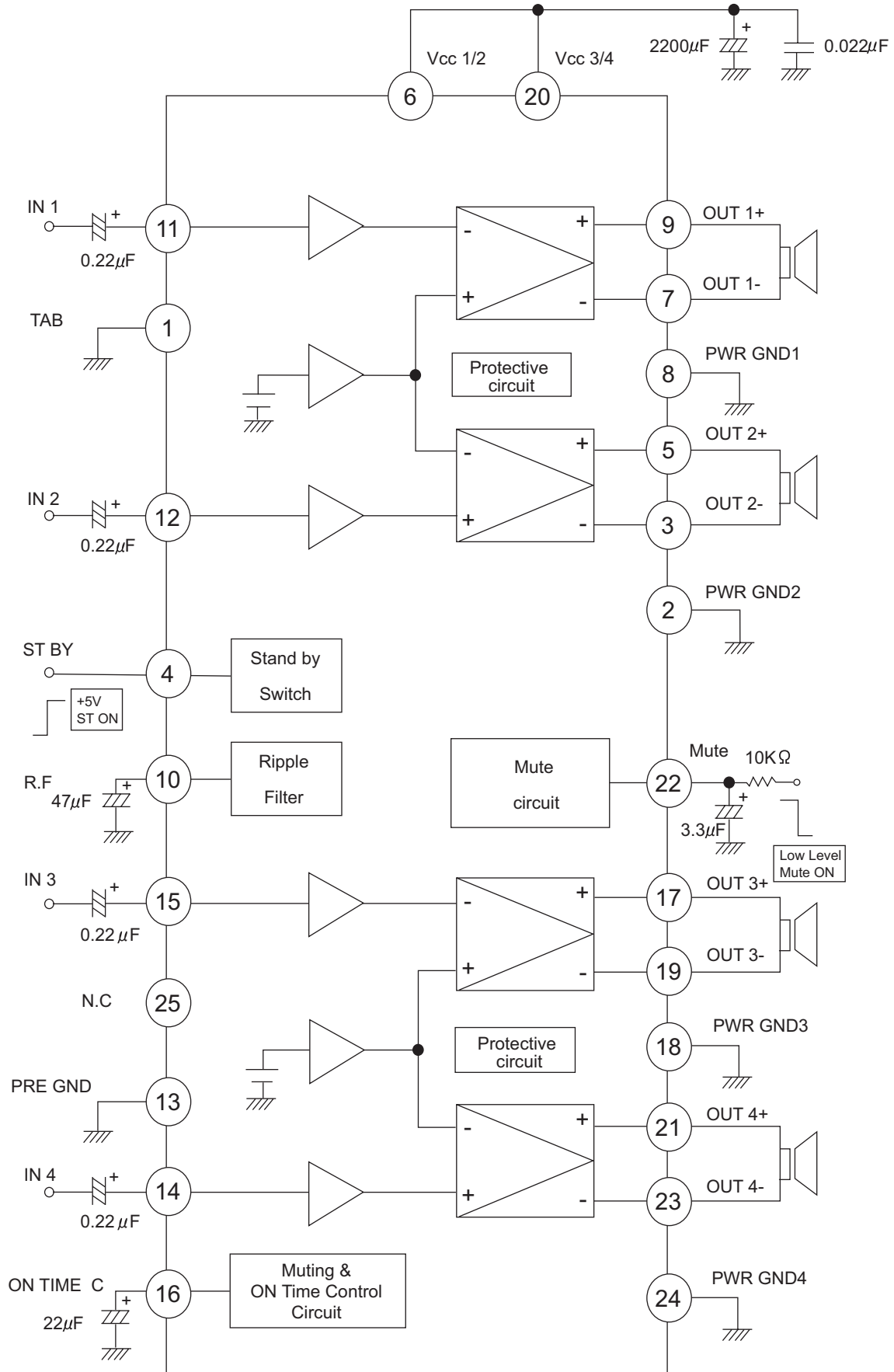
- Pin functions

Pin No.	Symbol	I/O	Functions
1	SDA	I/O	Serial data input/output.
2	GND	-	Ground.
3	OUTLR	O	output left rear.
4	OUTLF	O	output left front.
5	TL	I	Treble control capacitor left channel or input from an external equalizer.
6	B2L	-	Bass control capacitor left channel or output to an external equalizer.
7	B1L	-	Bass control capacitor left channel.
8	IVL	I	Input volume 1. left control part.
9	ILL	I	Input loudness. left control part.
10	QSL	O	Output source selector. left channel.
11	IDL	-	Not used
12	MUTE	-	Not used
13	ICL	I	Input C left source.
14	IMO	-	Not used
15	IBL	I	Input B left source.
16	IAL	I	Input A left source.

Pin No.	Symbol	I/O	Functions
17	IAR	I	Input A right source.
18	IBR	I	Input B right source.
19	CAP	-	Electronic filtering for supply.
20	ICR	I	Input C right source.
21	Vref	-	Reference voltage (0.5Vcc)
22	IDR	-	Not used
23	QSR	O	Output source selector right channel.
24	ILR	I	Input loudness right channel.
25	IVR	I	Input volume 1. right control part.
26	B1R	-	Bass control capacitor right channel
27	B2R	O	Bass control capacitor right channel or output to an external equalizer.
28	TR	I	Treble control capacitor right channel or input from an external equalizer.
29	OUTRF	O	Output right front.
30	OUTRR	O	Output right rear.
31	Vcc	-	Supply voltage.
32	SCL	I	Serial clock input.

6.5 LA4743K (IC941) : Power amp.

- Block diagram



• Pin layout

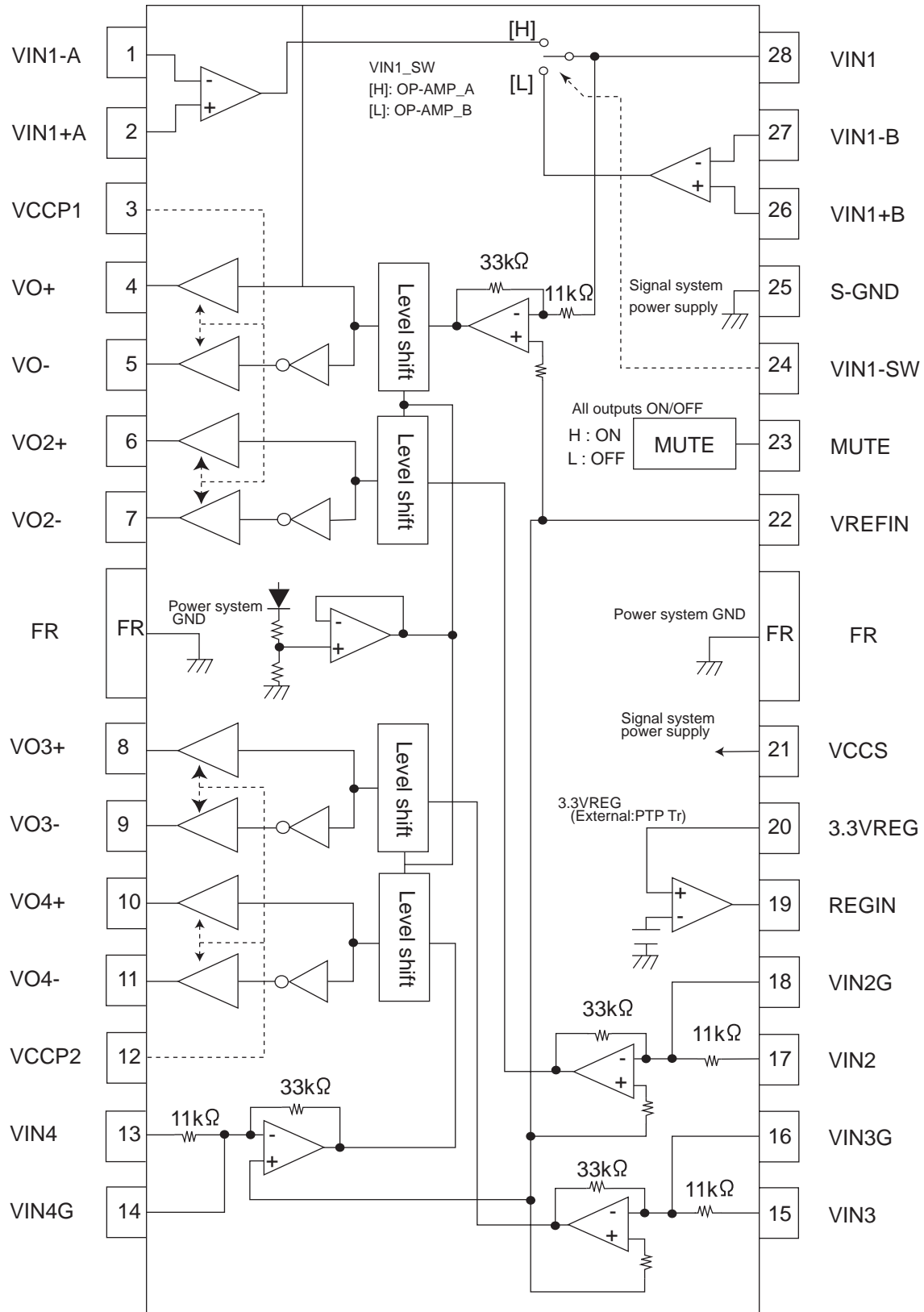


• Pin function

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1	TAB	Header of IC	14	FLIN	Front Lch input
2	GND	Power GND	15	RLIN	Rear Lch input
3	FR-	Outpur(-) for front Rch	16	ONTIME	Power on time control
4	STDBY	Stand by input	17	RL+	Output (+) for rear Lch
5	FR+	Output (+) for front Rch	18	GND	Power GND
6	VP1	Power input	19	RL-	Output (-) for rear Lch
7	RR-	Output (-) for rear Rch	20	VP3	Power input
8	GND	Power GND	21	FL+	Output (+) for front
9	RR+	Output (+) for rear Rch	22	MUTE	Muting control input
10	RIPPLE	Ripple filter	23	FL-	Output (-) for front
11	RRIN	Rear Rch input	24	GND	Power GND
12	FRIN	Front Rch input	25	NC	Non connection
13	SGND	Signal GND			

6.6 LA6579H-X (IC561) : 4-Channel bridge driver

- Pin layout & Block diagram

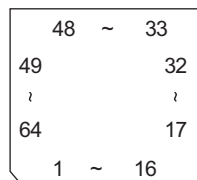


- Pin function

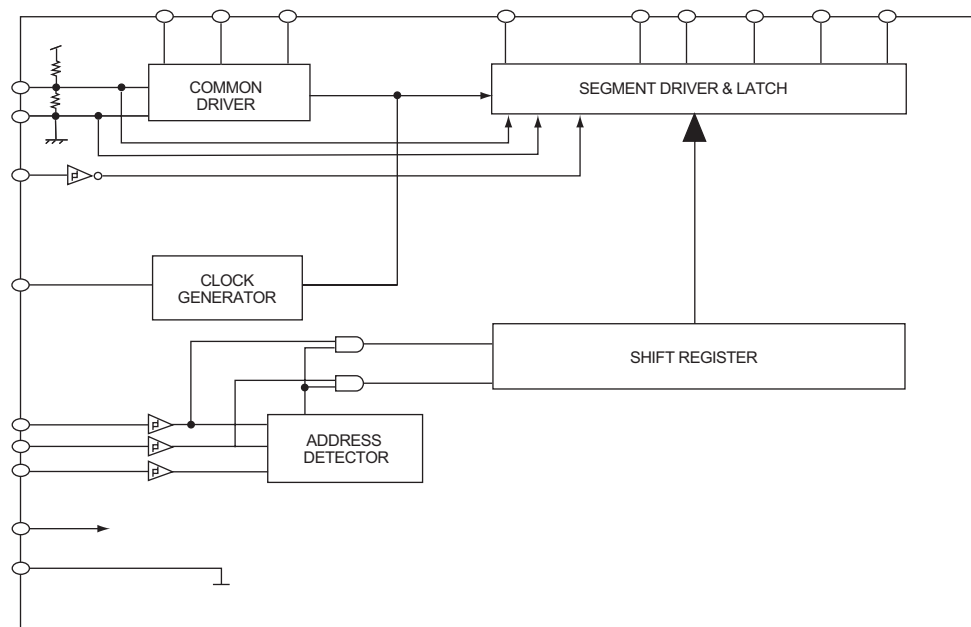
Pin No.	Symbol	Function
1	VIN1-A	CH1 input AMP_inverted input
2	VIN1+A	CH1 input AMP_non-inverted input
3	VCCP1	CH1 and CH2 power stage power supply
4	VO1+	Output pin(+)for channel 1
5	VO1-	CH1 output pin (-) for channel 1
6	VO2+	Output pin(+)for channel 2
7	VO2-	Output pin(-)for channel 2
8	VO3+	Output pin(+)for channel 3
9	VO3-	Output pin(-)for channel 3
10	VO4+	Output pin(+)for channel 4
11	VO4-	Output pin(-)for channel 4
12	VCCP2	CH3 and CH4 power stage powr supply
13	VIN4	Input pin for channel 4
14	VIN4G	Input pin for channel 4(for gain adjustment)
15	VIN3	Input pin for channel 3
16	VIN3G	Input pin for channel 3(for gain adjustment)
17	VIN2	Input pin for channel 2
18	VIN2G	Input pin for channel 2(for gain adjustment)
19	REGIN	External PNP transistor base connection
20	3.3VREG	3.3VREG output pin external PNP transistor,collector connection
21	VCCS	Signal system GND
22	VREFIN	Reference voltage application pin
23	MUTE	Output ON/OFF pin
24	VIN1_SW	CH1 input OP AMP_changeover pin
25	S_GND	Signal system GND
26	VIN1+B	CH1 AMP_B non-inverted input pin
27	VIN1-B	CH1 AMP_B inverted input pin
28	VIN1	CH1 input pin input OP_AMP output pin

6.7 PT6523LQ (IC601) : LCD driver

- Pin layout



- Block diagram



- Pin function

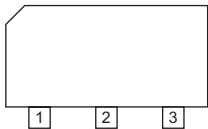
Pin No.	Pin Name	I/O	Description
1~ 52	SG1 ~ SG52	O	Segment Output Pins
53~55	COM1 ~ COM3	O	Common Driver Output Pins
56	VDD	-	Power Supply
57	$\overline{\text{INH}}$	I	Display OFF Control Input Pin When this pin is "Low", the Display is forcibly turned OFF. (SG1 to SG52, COM1 to COM3 are set to "LOW"). (See Note 1) When this pin is set to "High", the Displa is ON.
58	VDD1	I	Used for the 2/3 Bias Voltage when the Bias Voltages are provided externally. Connect to VDD2 when 1/2 Bias is used.
59	VDD2	I	Used for 1/3 Bias Voltage when the Bias Voltages are provided externally. Connect to VDD1 when 1/2 Bias is used.
60	VSS	-	Ground Pin.
61	OSC	I/O	Oscillation Input /Outout Pin
62	CE	I	Chip Enable Pin
63	CLK	I	Synchronization Clock
64	DI	I	Transfer Data Pin

Note 1:

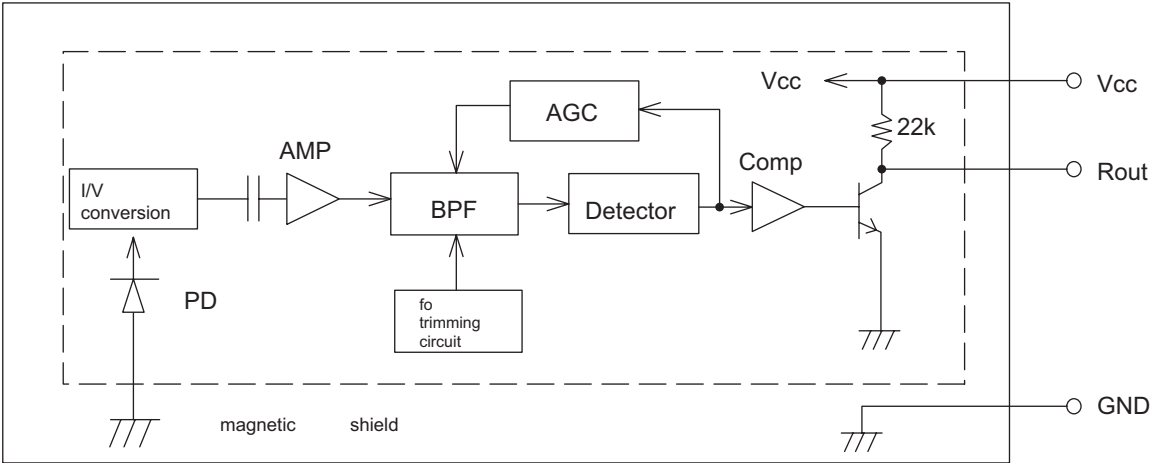
When $\overline{\text{INH}}$ = "LOW" : Serial data transfers can be performed when the display is forcibly OFF.

6.8 RPM6938-SV4 (IC602) : Remote sensor

- Pin diagram

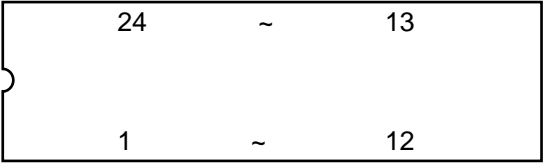


- Block diagram

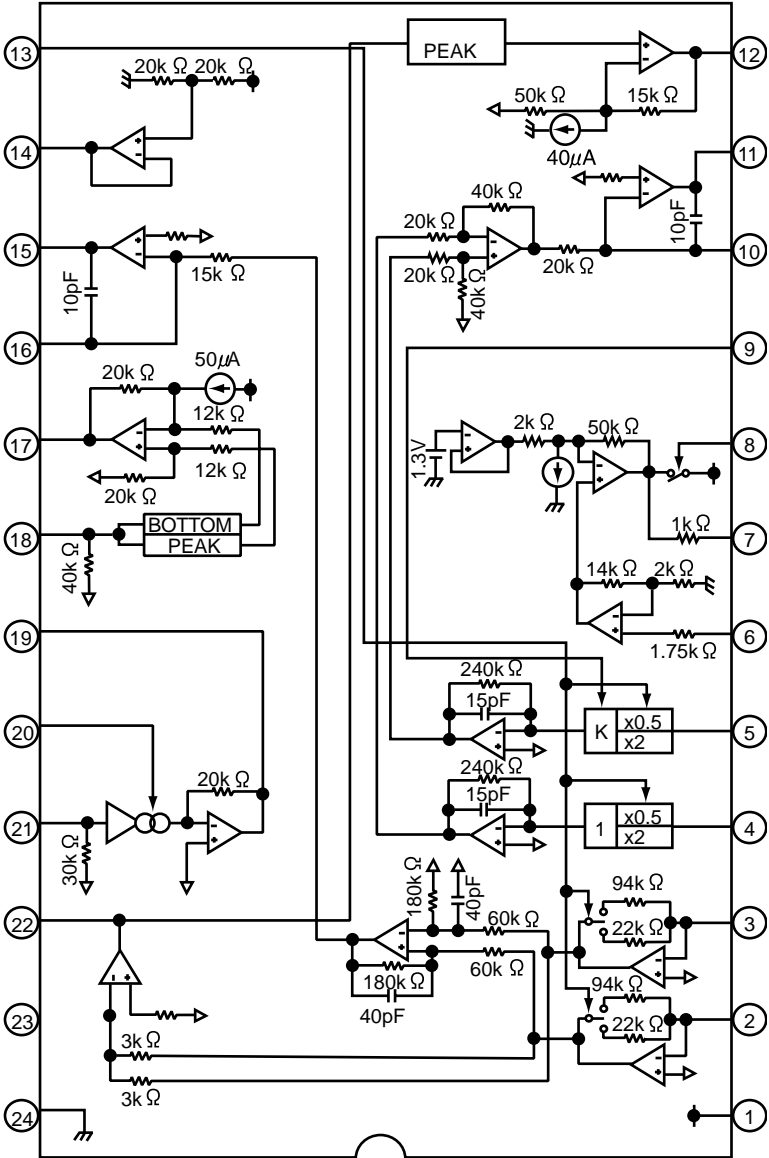


6.9 TA2157FN-X (IC601):RF amp

- Terminal layout



- Block diagram



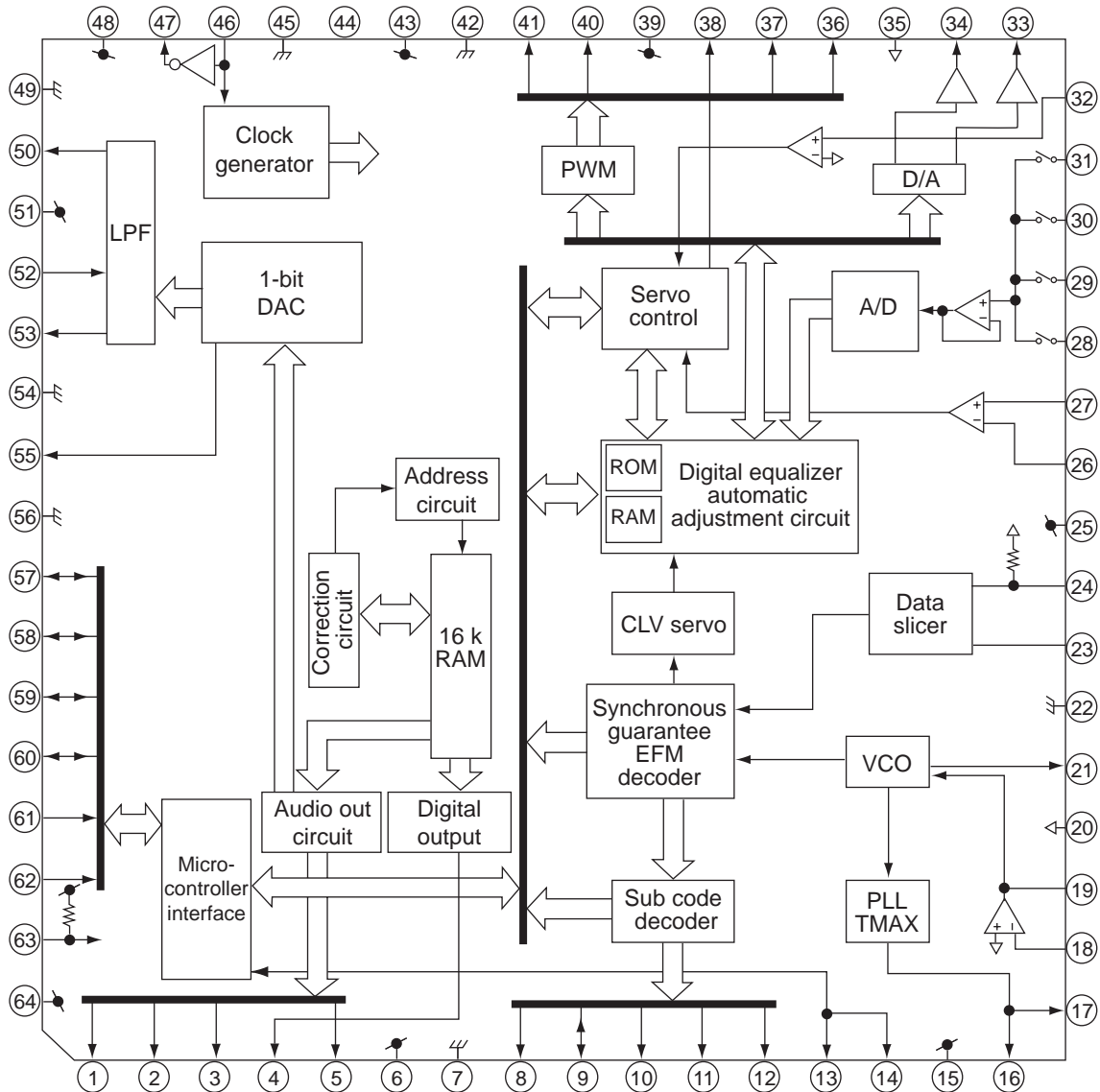
PIN	SEL (APC SW)	TEB (TE BAL)	RFGC (AGC Gian)	TEB (TE BAL)
VCTRLPIN				
VCC	APC ON	-50%	+12dB	Normal mode (0dB)
HiZ	APC ON	0%	+6dB	Normal mode (0dB)
GND	APC OFF (LDO=H)	50%	0dB	CD-RW mode (+12dB)

• Pin function

Pin No.	Symbol	I/O	Function												
1	VCC	-	3.3V power supply pin												
2	FNI	I	Main-beam amp input pin												
3	FPI	I	Main-beam amp input pin												
4	TPI	I	Sub-beam amp input pin												
5	TNI	I	Sub-beam amp input pin												
6	MDI	I	Monitor photo diode amp input pin												
7	LDO	O	Laser diode amp output pin												
8	SEL	I	APC circuit ON/OFF control signal, laser diode (LDO) control signal input or bottom/peak detection frequency change pin. <table><tr><td>SEL</td><td>APC circuit</td><td>LDO</td></tr><tr><td>GND</td><td>OFF</td><td>Connected VCC through 1kΩ resistor</td></tr><tr><td>Hiz</td><td>ON</td><td>Control signal output</td></tr><tr><td>VCC</td><td>ON</td><td>Control signal output</td></tr></table>	SEL	APC circuit	LDO	GND	OFF	Connected VCC through 1kΩ resistor	Hiz	ON	Control signal output	VCC	ON	Control signal output
SEL	APC circuit	LDO													
GND	OFF	Connected VCC through 1kΩ resistor													
Hiz	ON	Control signal output													
VCC	ON	Control signal output													
9	TEB	I	Tracking error balance adjustment signal input pin Adjusts TE signal balance by eliminating carrier component from PWM signal (3-state output, PWM carrier = 88.2kHz) output from TC94A14F/FA TEBC pin using RC-LPF and inputting DC. TEBC input voltage:GND~VCC												
10	TEN	I	Tracking error signal generation amp negative-phase input pin												
11	TEO	O	Tracking error signal generation amp output pin. Combining TEO signal RFRP signal with TC94A14F/FA configures tracking search system.												
12	RFDC	O	RF signal peak detection output pin												
13	GVSW	I	AGC/FE/TE amp gain change pin <table><tr><td>GVSW</td><td>Mode</td></tr><tr><td>GND</td><td>CD-RW</td></tr><tr><td>Hiz</td><td>Normal</td></tr><tr><td>VCC</td><td></td></tr></table>	GVSW	Mode	GND	CD-RW	Hiz	Normal	VCC					
GVSW	Mode														
GND	CD-RW														
Hiz	Normal														
VCC															
14	VRO	O	Reference voltage (VRO) output pin *VRO=1/2VCC When VCC=3.3V												
15	FEO	O	Focus error signal generation amp output pin												
16	FEN	I	Focus error signal generation amp negative-phase input pin												
17	RFRP	O	Signal amp output pin for track count Combining RFRP signal and TEO signal with TC94A14F/FA configures tracking search system.												
18 19 20	REIS RFGO RFGC	I O I	RF signal amplitude adjustment amp output pin RF amplitude adjustment control signal input pin Adjusts RF signal amplitude by eliminating carrier component from PWM signal (3-state output, PWM carrier=88.2kHz)output fromTC94A14F/14FA *RFGC pin using RC-LPF and inputting DC. *RFGC input voltage:GND~VCC												
21	AGCIN	I	RF signal amplitude adjustment amp input pin												
22	RFO	O	RF signal generation amp output pin												
23	RFI	I	RF signal generation amp input pin												
24	GND	-	GND pin												

6.10 TC94A14FA (IC541) : DSP & DAC

• Terminal layout & block diagram



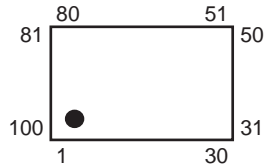
• Pin function

Pin No	Symbol	I/O	Description
1	BCK	O	Bit clock output pin. 32fs/48fs or 64fs selectable by command.
2	LRCK	O	L/R channel clock output pin. "L" for L channel and "H" for R channel. Output polarity can be inverted by command.
3	AOUT	O	Audio data output pin. MSB-first or LSB-first selectable by command.
4	DOUT	O	Digital data output pin. Outputs up to double-speed playback.
5	IPF	O	Correction flag output pin. When set to "H" AOUT output cannot be corrected by C2 correction processing.
6	V _{DD3}	-	Digital 3.3V power supply voltage pin.
7	V _{SS3}	-	Digital GND pin.
8	SBOK	O	Subcode Q data CRCC result output pin. "H" level when result is OK.
9	CLCK	O	Subcode P-W data read I/O pin. I/O polarity selectable by command.
10	DATA	O	Subcode P-W data output pin.
11	SFSY	O	Playback frame sync signal output pin.
12	SBSY	O	Subcode block sync signal output pin. "H" level at S1 when subcode sync is detected.
13	HSO	I/O	General-purpose input / output pins. Input port at reset.
14	UHSO		
15	PV _{DD3}	-	PLL-only 3.3V power supply voltage pin.
16	PDO	O	EFM and PLCK phase difference signal output pin.

Pin No	Symbol	I/O	Description	
17	TMAX	O	TMAX detection result output pin.	
			TMAX Detection Result	TMAX Output
			Longer than fixed period	"PVDD3"
			Within fixed period	"HiZ"
			Shorter than fixed period	"AVSS3"
18	LPFN	I	Inverted input pin for PLL LPF amp.	
19	LPFO	O	Output pin for PLL LPF amp.	
20	PVREF	-	PLL-only VREF pin.	
21	VCOF	O	VCO filter pin.	
22	AV _{SS3}	-	Analog GND pin.	
23	SLCO	O	DAC output pin for data slice level generation.	
24	RFI	I	RF signal input pin. Zin selectable by command.	
25	AV _{DD3}	-	Analog 3.3V power supply voltage pin.	
26	RFCT	I	RFRP signal center level input pin.	
27	RFZI	I	RFRP signal zero-cross input pin.	
28	RFRP	I	RF ripple signal input pin.	
29	FEI	I	Focus error signal input pin.	
30	SBAD	I	Sub-beam adder signal input pin.	
31	TEI	I	Tracking error input pin. Inputs when tracking servo is on.	
32	TEZI	I	Tracking error signal zero-cross input pin.	
33	FOO	O	Focus equalizer output pin.	
34	TRO	O	Tracking equalizer output pin.	
35	VREF	-	Analog reference power supply voltage pin.	
36	RFGC	O	RF amplitude adjustment control signal output pin.	
37	TEBC	O	Tracking balance control signal output pin.	
38	SEL	O	APC circuit ON/OFF signal output pin. At laser on, high impedance with UHS="L", H output with UHS="H".	
39	AV _{DD3}	-	Analog 3.3V power supply voltage pin.	
40	FMO	O	Feed equalizer output pin.	
41	DMO	O	Disc equalizer output pin.	
42	V _{SS3}	-	Digital GND pin.	
43	V _{DD3}	-	Digital 3.3V power supply voltage pin.	
44	TESIN	I	Test input pin. Normally, fixed to "L".	
45	XV _{SS3}	-	System clock oscillator GND pin.	
46	XI	I	System clock oscillator input pin.	
47	XO	O	System clock oscillator output pin.	
48	XV _{DD3}	-	System clock oscillator 3.3V power supply voltage pin.	
49	DV _{SS3R}	-	DA converter GND pin.	
50	RO	O	R-channel data forward output pin.	
51	DV _{DD3}	-	DA converter 3.3V power supply pin.	
52	DVR	-	Reference voltage pin.	
53	LO	O	L-channel data forward output pin.	
54	DV _{SS3L}	-	DA converter GND pin.	
55	ZDET	O	1 bit DA converter zero detection flag output pin.	
56	V _{SS5}	-	Microcontroller interface GND pin.	
57	BUS0			
58	BUS1			
59	BUS2	I/O	Microcontroller interface data I/O pins.	
60	BUS3			
61	BUCK	I	Microcontroller interface clock input pin.	
62	/CCE	I	Microcontroller interface chip enable signal input pin. At "L", BUS0 to BUS3 are active.	
63	/RST	I	Reset signal input pin. At reset, "L".	
64	V _{DD5}	-	Microcontroller interface 5V power supply pin.	

6.11 UPD178078GF-622 (IC701) : System CPU

- Pin Layout





- Pin function

Pin No.	Symbol	I/O	Function
1	NO USE	O	OUTPUT L
2	BUS-INT	I	JVC BUS COMMUNICATION LINE
3	BUS-SI	I	J-BUS data input
4	BUS-SO	O	J-BUS data output
5	BUS-SCK	I/O	J-BUS clock input/output
6 to8	NO USE	O	OUTPUT L
9	VOL-DA	I/O	VOL IC COMMUNICATION LINE
10	VOL-CLK	O	VOL IC COMMUNICATION LINE
11	NO USE	O	OUTPUT L
12	LCD-DA	O	LCD DRIVER COMMUNICATION LINE
13	LCD-CLK	O	LCD DRIVER COMMUNICATION LINE
14	BUS-I/O	O	JVC BUS OUTPUT SELECT
15	NO USE	O	OUTPUT L
16	LCD-CE	O	LCD DRIVER COMMUNICATION LINE
17	SW2	I	CD MECHA SW
18	PSW	I	CD MECHA SW
19,20	NO USE	O	OUTPUT L
21	VOL-1	I	ENCODER INPUT
22	VOL-2	I	ENCODER INPUT
23	KEY0	I	KEY INPUT
24	KEY1	I	KEY INPUT
25	KEY2	I	KEY INPUT
26	LEVEL	I	AUDIO LEVEL INPUT
27	AVDD	-	-
28	SM	I	SIGNAL LEVEL METER INPUT
29	NO USE	I	-
30	DOOR SW	I	DOOR OPEN SW
31	NO USE	I	-
32	AVSS	-	-
33	REGCPU	-	-
34	VDD	-	-
35	REGOSC	-	-
36	X2	-	SYSTEM CLOCK
37	X1	I	SYSTEM CLOCK
38	GND0	-	-
39	SD/ST	I	STATION DETECTOR & STEREO IND.
40	GND2	-	-
41	NO USE	O	OUTPUT L

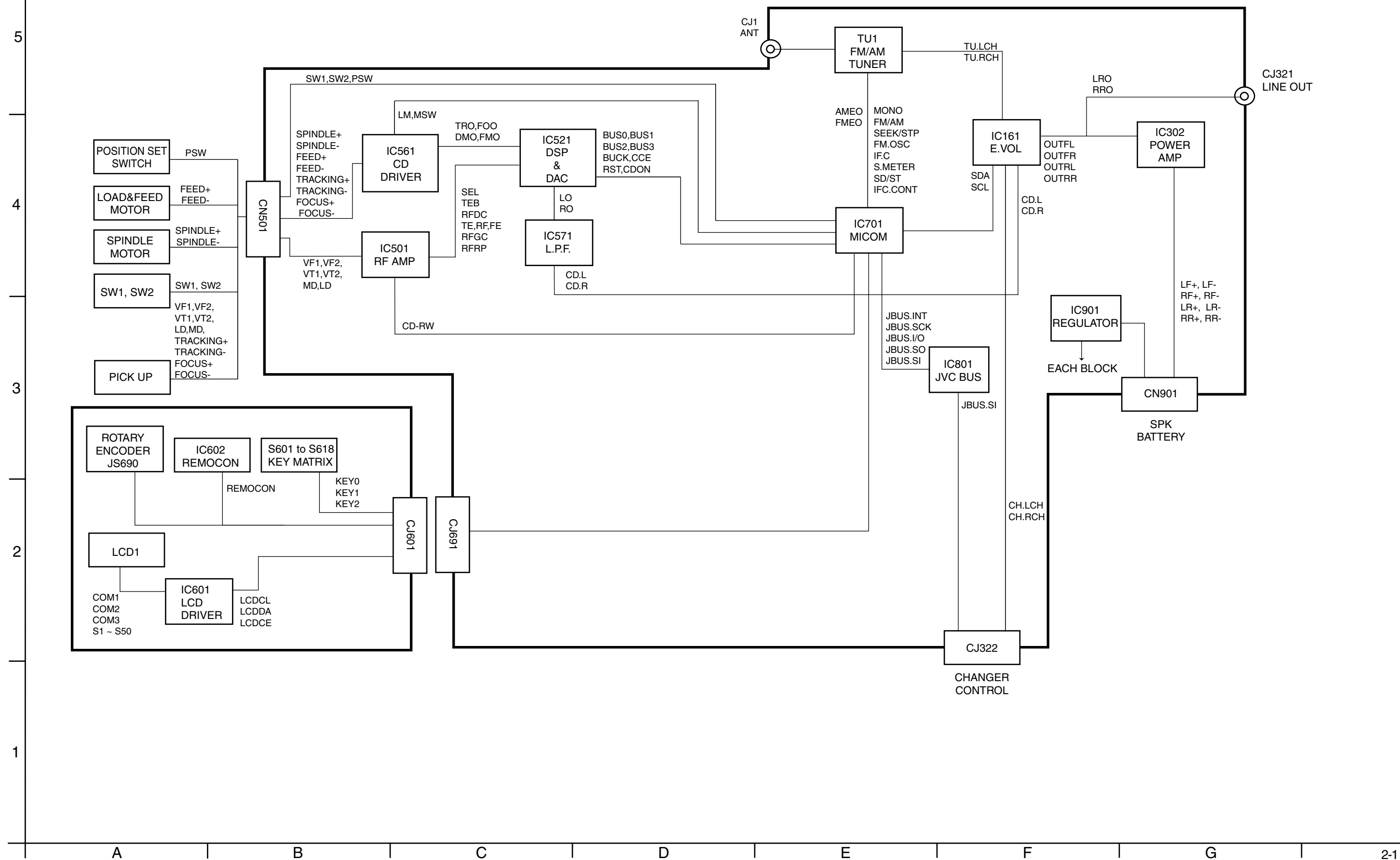
Pin No.	Symbol	I/O	Function
42	IFC	I	IF COUNT INPUT
43	VDDPLL	-	-
44	OSC INPUT	I	FM AM OSC INPUT
45	NO USE	I	-
46	GNDPLL	-	-
47	AM E.OUT	O	PLL ERROR OUTPUT FOR AM
48	FM E.OUT	O	PLL ERROR OUTPUT FOR FM
49	IC(VPP)	-	SETTING TO WRITE FOR FLASH
50	RESET	I	SYSTEM RESETCD MECHA
51	SW1	I	SW
52	REMOCON	I	REMOCON INPUT
53,54	NO USE	O	OUTPUT L
55	POWER	O	POWER CONT.
56	CD-ON	O	CD POWER CONT.
57	MUTING	O	MUTING CONT
58	NO USE	O	OUTPUT L
59	BUZZER	O	BUZZER OUTPUT
60 to 67	NO USE	O	OUTPUT L
68	CD-RW	O	RF gain control L=CD-RW H=CD-DA
69	LM	O	DISC LOADING AND EJECTING CONT
70	MOTOR SEL	O	MOTOR SELECT
71	BUCK	O	clock output for CD LSI
72	CCE	O	CE output for CD LSI
73	BUS0	I/O	data output and input 0 for CD LSI
74	BUS1	I/O	data output and input 1 for CD LSI
75	BUS2	I/O	data output and input 2 for CD LSI
76	BUS3	I/O	data output and input 3 for CD LSI
77	RST	O	CD LSI COMMUNICATION LINE
78	PS1	I	ACC DETECTION INPUT
79	PS2	I	MEMORY DETECTION
80	DETACH	I	DETACH DETECTION
81	NO USE	O	OUTPUT L
82	GND1	-	-
83	MONO	O	MONO BY FORCE
84	SEEK/STOP	O	SWITCHING SEEK & STOP
85	FM/AM	O	BAND SW
86,87	NO USE	O	OUTPUT L
88	DIMMER IN	I	DIMMER IN
89	ANTENNA	O	ANTENNA CONT. OUTPUT
90	IFC CONT	O	IF OUT CONTROL
91	UNLOCK	O	PLL UNLOCK MONITOR OUTPUT
92 to 97	NO USE	O	OUTPUT L
98	DIMMER OUT	O	DIMMER CTRL OUT
99	VDDPORT	-	-
100	GNDPORT	-	-

Safety precaution

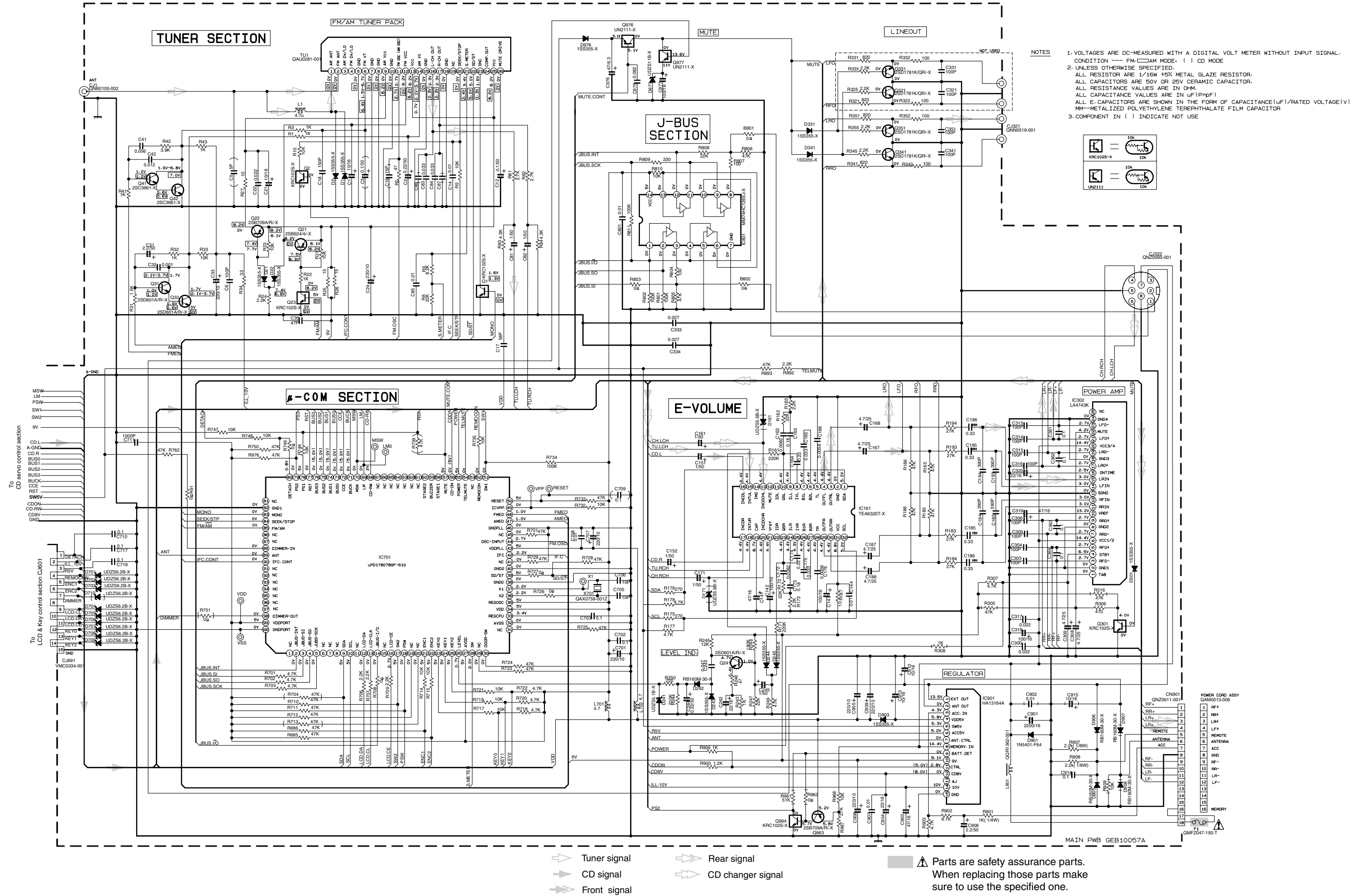
 **CAUTION** Burrs formed during molding may be left over on some parts of the chassis. Therefore, pay attention to such burrs in the case of performing repair of this system.

 **CAUTION** Please use enough caution not to see the beam directly or touch it in case of an adjustment or operation check.

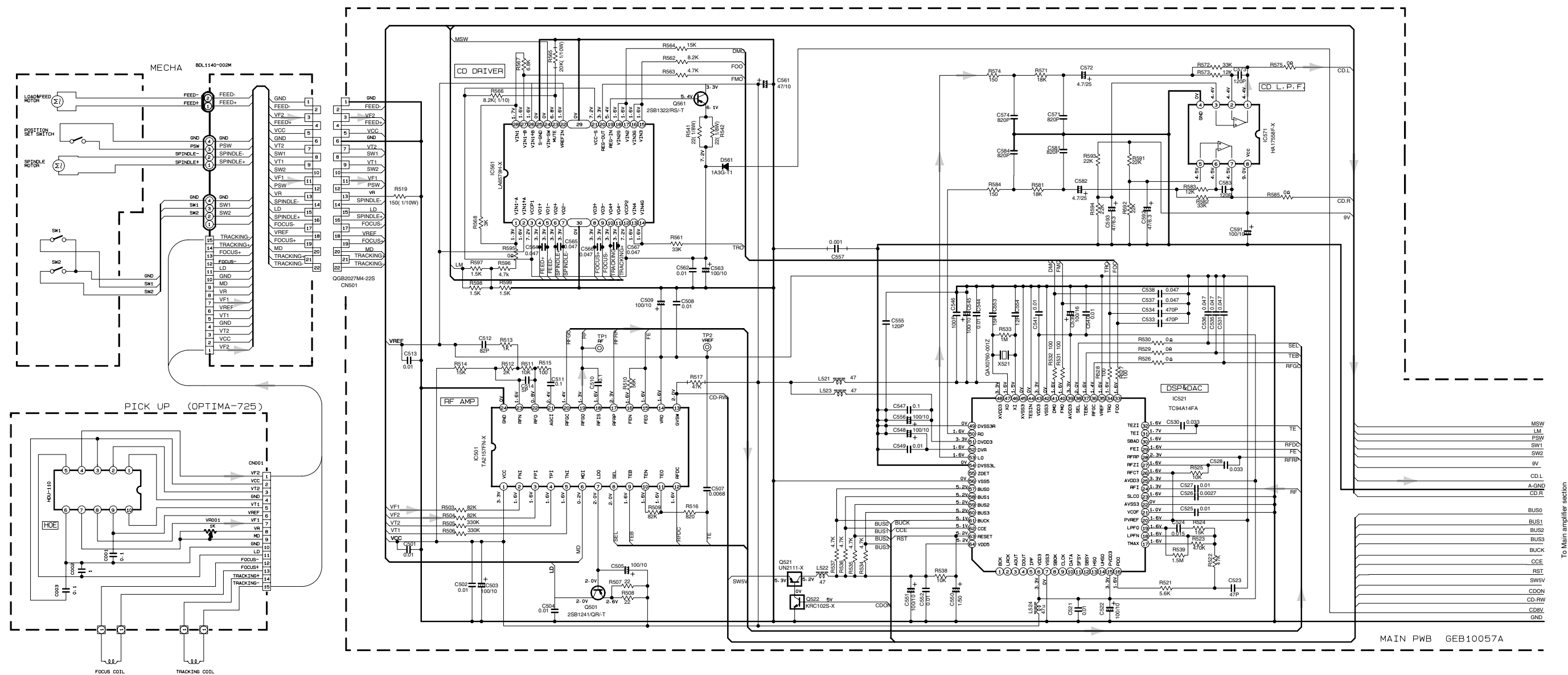
Block diagram



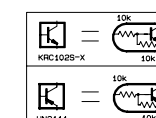
■ Main amplifier section



■ **CD servo control section**

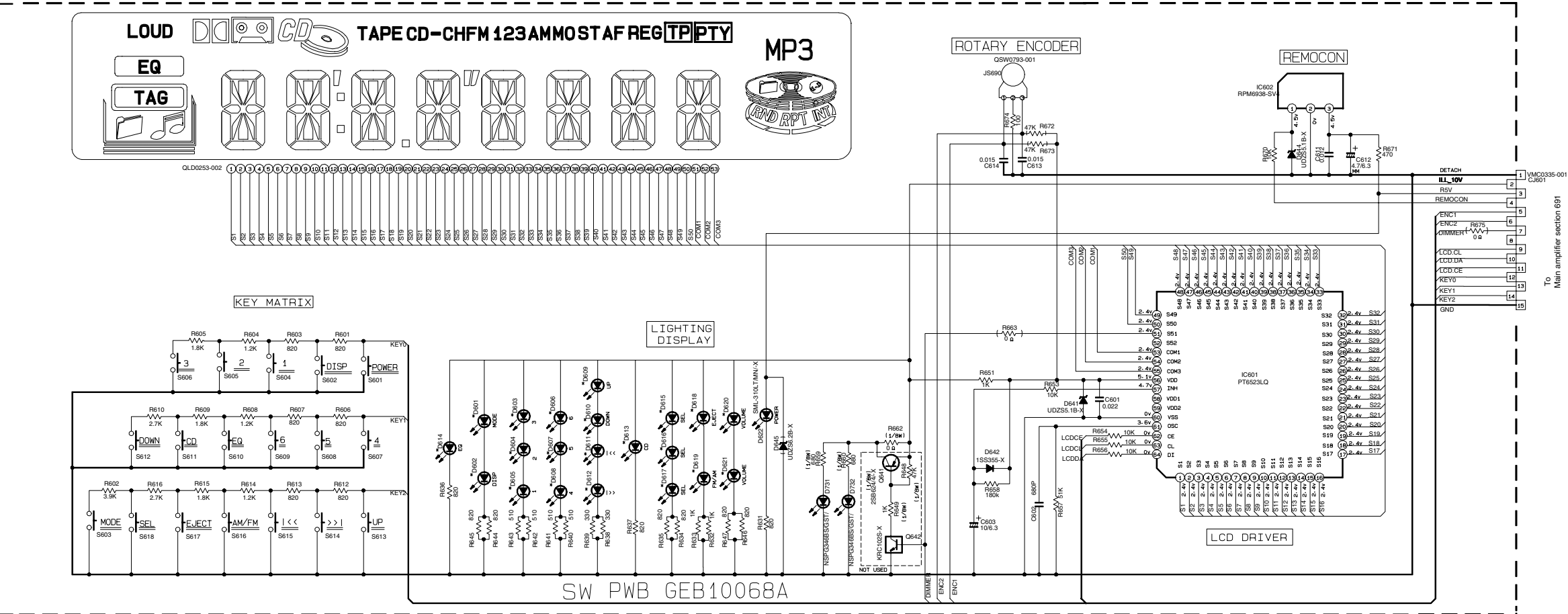


➡ CD signal



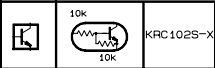
- NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL CONDITION — CD MODE.
 2. UNLESS OTHERWISE SPECIFIED:
 - ALL RESISTOR ARE 1/16W $\pm 5\%$ METAL GLAZE RESISTOR.
 - ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR.
 - ALL RESISTANCE VALUES ARE IN OHM.
 - ALL CAPACITANCE VALUES ARE IN μF ($\mu p p f$)
 - ALL E_s CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE (μF)/RATED VOLTAGE (V)

■ LCD & Key control section



FRONT CIRCUIT BOARD SECTION

* REMARK	
MODEL	KD-SX60WTJ, KD-SX50MJ
REF NAME	
D601-D621	LNJ308GB1/1-3/X

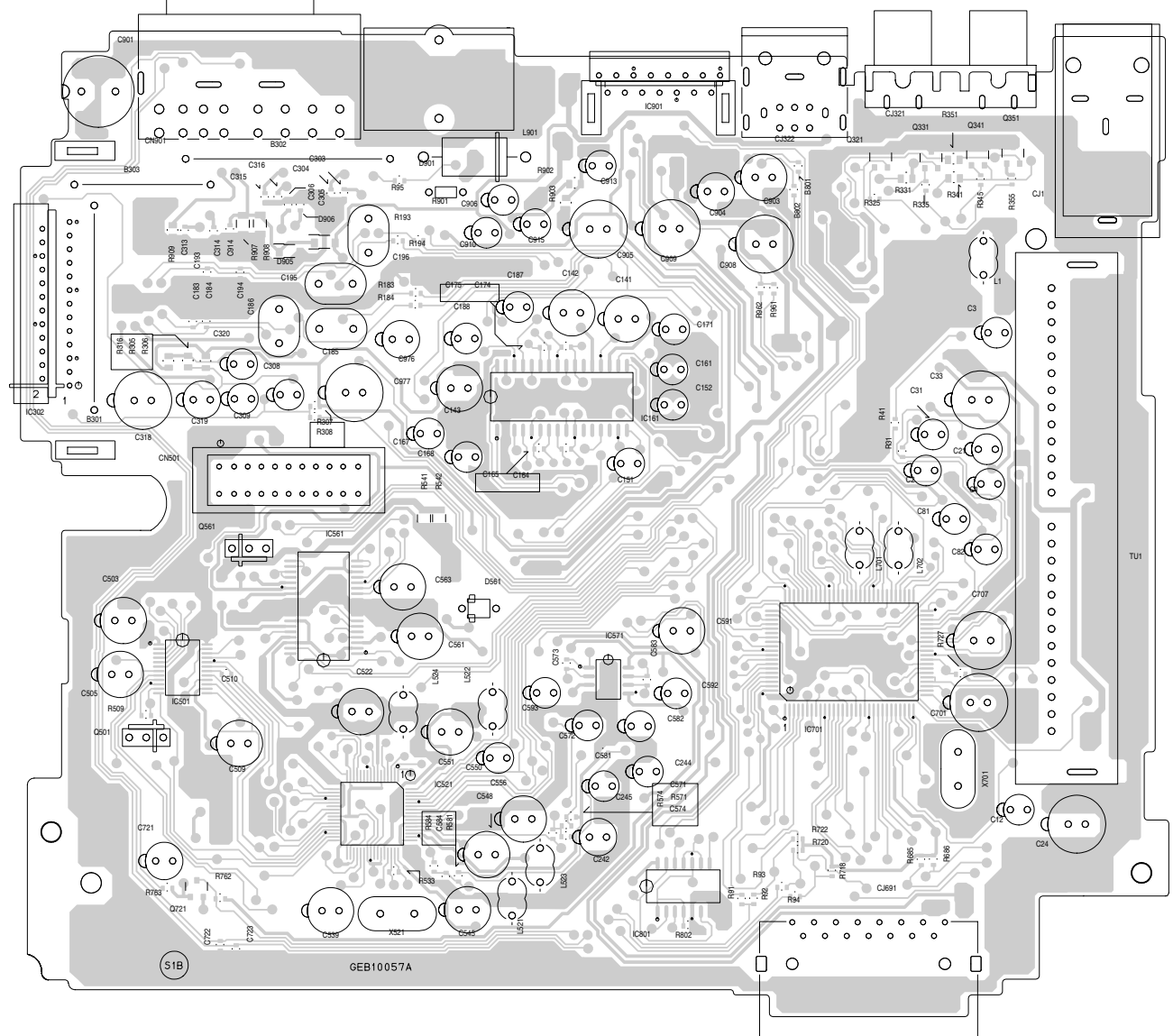


- NOTES
1. VOLTAGES ARE DC-MEASURED WITH A DIGITAL VOLT METER WITHOUT INPUT SIGNAL.
 2. UNLESS OTHERWISE SPECIFIED:
ALL RESISTOR ARE 1/16W $\pm 5\%$ METAL GLAZE RESISTOR.
ALL CAPACITORS ARE 50V OR 25V CERAMIC CAPACITOR.
ALL RESISTANCE VALUES ARE IN Ω M.
ALL CAPACITANCE VALUES ARE IN μ F(P=pF)
ALL E. CAPACITORS ARE SHOWN IN THE FORM OF CAPACITANCE(μ F)/RATED VOLTAGE(V)
MM --- TANTAL CAPACITOR.

Printed circuit boards

■ Main board

Forward side

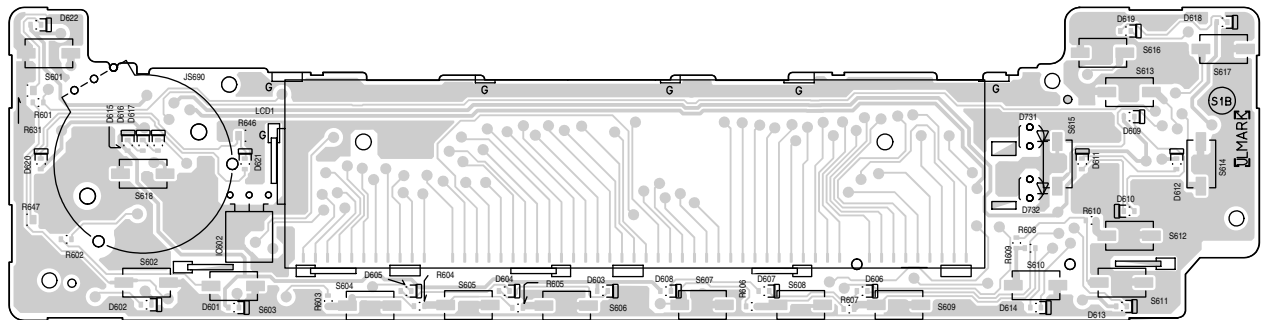


Reverse side

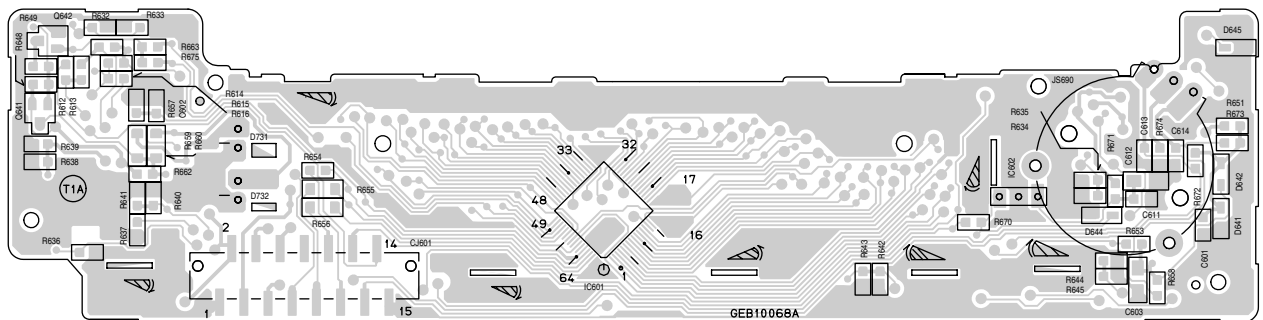


■ Front board

Forward side



Reverse side



PARTS LIST

[KD-SX60WT]

[KD-SX50M]

* All printed circuit boards and its assemblies are not available as service parts.

Area suffix

J ----- Northern America

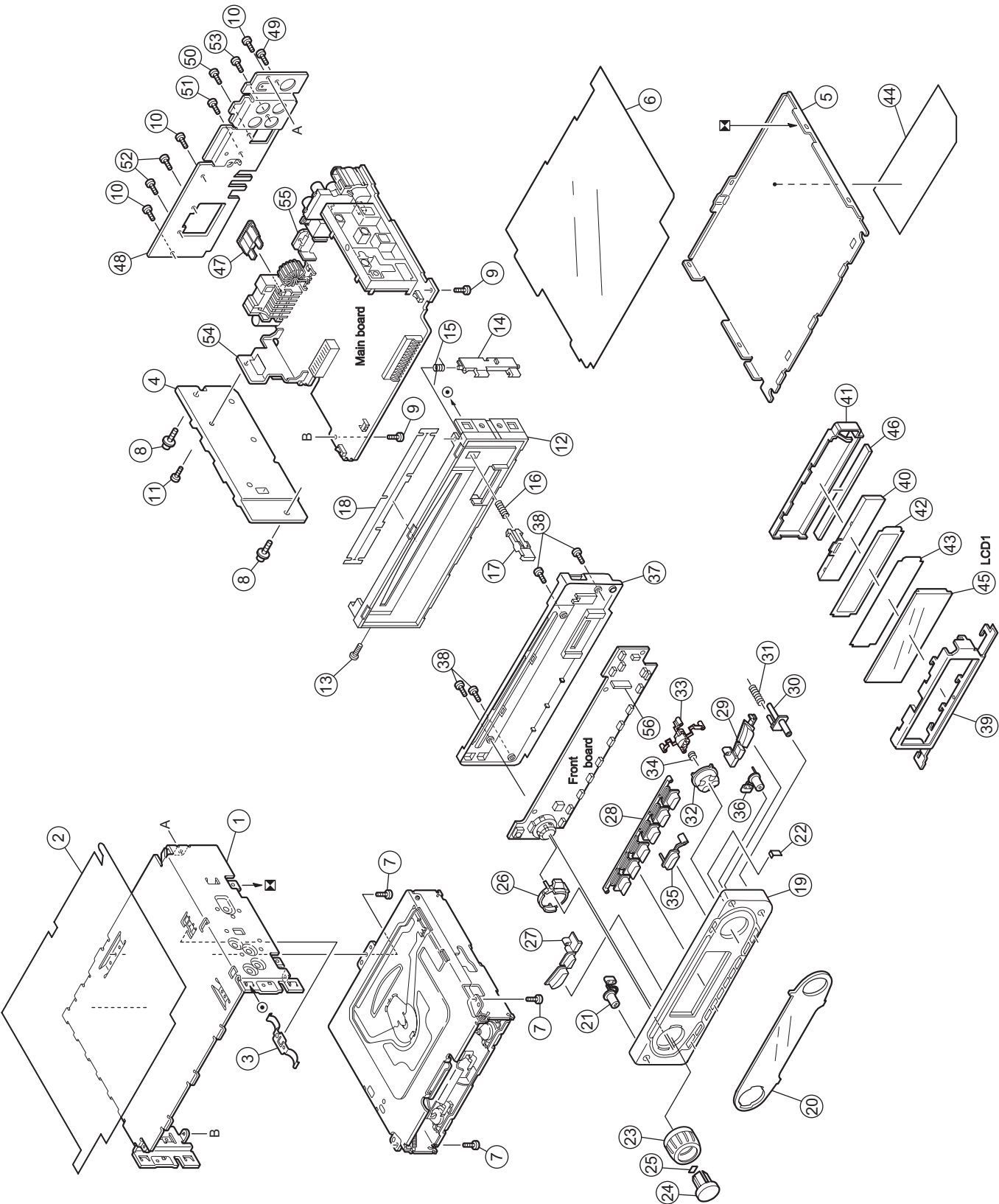
- Contents -

Exploded view of general assembly and parts list (Block No.M1)	3- 2
CD mechanism assembly and parts list (Block No.MB)	3- 4
Electrical parts list (Block No.01~02)	3- 6
Packing materials and accessories parts list (Block No.M3)	3-10

Exploded view of general assembly and parts list

Block No.

M	1	M	M
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General assembly

Block No. [M][1][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	GE10043-210A	TOP CHASSIS		
2	GE30942-002A	TOP SHEET		
3	GE40135-001A	EARTH PLATE		
4	GE30938-003A	SIDE PANEL		
5	GE30393-002A	BOTTOM COVER		
6	FSMA3004-203	INSULATOR		
7	QYSDST2604Z	SCREW	2.6mm x 4mm(x3)	
8	FSKZ4005-001	SCREW	(x2)	
9	QYSDST2606Z	SCREW	2.6mm x 6mm(x2)	
10	QYSDST2604Z	SCREW	2.6mm x 4mm(x3)	
11	QYSDST2610Z	SCREW	2.6mm x 10mm	
12	GE10056-001A	FRONT CHASSIS		KD- SX50M
12	GE10056-002A	FRONT CHASSIS		KD- SX60W T
13	QYSDST2004M	MINI SCREW	2mm x 4mm	
14	GE30583-001A	LOCK LEVER		
15	FSKW4005-003	TORSION SPRING		
16	FSKW3002-015	COMP.SPRING		
17	FSXP3026-002	RLS KNOB		
18	GE40140-001A	BLIND		
19	GE10057-001A	FRONT PANEL		KD- SX50M
19	GE10057-003A	FRONT PANEL		KD- SX60W T
20	GE30802-013A	FINDER ASSY		KD- SX50M
20	GE30802-012A	FINDER ASSY		KD- SX60W T
21	GE30105-002B	POWER BUTTON		
22	FSYH4036-072	SHEET		KD- SX60W T
23	GE30815-002A	VOLUME KNOB		
24	GE30816-002A	SEL BUTTON		
25	FSYH4036-053	SHEET		
26	GE30817-001A	RIM LENS		
27	GE30811-002A	PUSH BUTTON		
28	GE20143-001A	PRESET BUTTON		
29	GE30814-007A	D. FUNC BTN DOW		
30	GE30807-001A	DETACH BUTTON		
31	FSKW3002-012	COMP.SPRING		
32	GE30818-001A	NAVI BUTTON		
33	GE30819-001A	NAVI BASE		
34	GE40127-002A	COMP.SPRING		
35	GE30813-001A	D.FUNC BTN UP		
36	GE30803-001A	EJECT BUTTON		
37	GE10058-004A	REAR COVER		KD- SX50M
37	GE10058-006A	REAR COVER		KD- SX60W T
38	VKZ4777-001	MINI SCREW	(x4)	
39	GE30804-002A	LCD CASE		
40	GE30805-001A	LCD LENS		
41	GE30806-001A	LENS CASE		
42	GE40150-005A	LIGHTING SHEET		
43	GE40150-006A	LIGHTING SHEET		
44	GE30869-001A	NAME PLATE		KD- SX50M
44	GE30866-001A	NAME PLATE		KD- SX60W T
45	QLD0253-002	LCD MODULE		
46	QNZ0442-001	LCD CONNECTOR		
△ 47	QMFZ047-150-T	FUSE	15A	
48	GE30912-006A	REAR BRACKET		
49	QYSDST2606Z	SCREW	2.6mm x 6mm	
50	QYSDST2606Z	SCREW	2.6mm x 6mm	
51	QYSDST2606Z	SCREW	2.6mm x 6mm	
52	QYSDSF2606Z	SCREW	2.6mm x 6mm(x2)	
53	QYSDSF2606Z	SCREW	2.6mm x 6mm	
54	GE40172-002A	IC BRACKET		
55	GE40124-001A	REG BRACKET		
56	GE30943-001A	LED HOLDER		

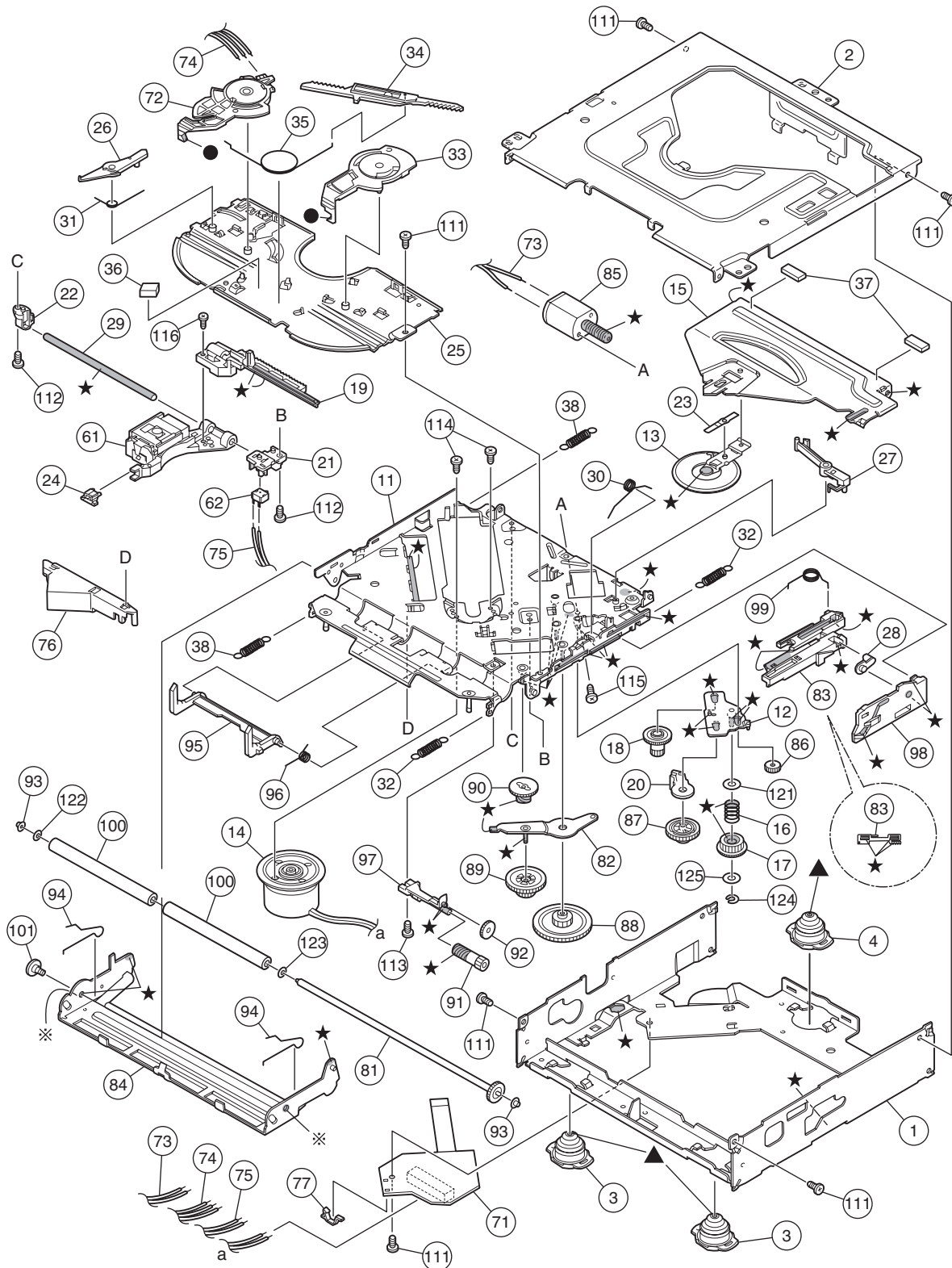
CD mechanism assembly and parts list

Block No. M B M M

Grease

- ★ TNG-87
- ※ GP-501MK
- CFD-005Z
- ▲ GP-501A

TN-2001-1011



CD mechanism

Block No. [M][B][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
1	30320101T	FRAME		
2	30320102T	TOP COVER		
3	30320115T	DANPER F		
4	30320116T	DANPER R		
11	303205505T	CHASSIS RIVET		
12	303205503T	CHANGE P. RVT A		
13	303205301T	CLAMPER ASS'Y		
14	303205302T	SPINDLE MOTOR A		
15	30320502T	CLAMPER ARM		
16	30320503T	CHANGE GEAR SPG		
17	30320505T	CHANGE GEAR 2		
18	30320506T	FEED GEAR		
19	30320507T	FEED RACK		
20	30320509T	CHANGE LOCK RAR		
21	30320510T	FEED SW HOLDER		
22	30320511T	PU SHAFT HOLDER		
23	30320513T	CLAMPER SUB SPG		
24	30320514T	FD SUB HOLDER		
25	30320518T	TOP PLATE		
26	30320519T	SELECT LOCK ARM		
27	30320520T	TRIGGER ARM		
28	30320521T	SLIDE HOOK		
29	30320522T	PU SHAFT		
30	30320525T	CLAMPER ARM SPG		
31	30320526T	SELECT L ARM SP		
32	30320538T	SUSPENSION SP R		
33	30320529T	SELECT ARM R		
34	30320530T	LINK PLATE		
35	30320531T	LINK PLATE SPG		
36	30320523T	CUSHION F		
37	30320524T	CUSHION R		
38	30320539T	SUSPENSION SP L		
61	69011614T	PICKUP OPT-725		
62	64180406T	DET SW ESE22		
71	303210301T	CONN PWB ASS'Y		
72	30321002T	MODE SW		
73	30321003T	LOAD MOTOR WIRE		
74	30321005T	MODE SW WIRE		
75	30321009T	SL WIRE		
76	30321011T	WIRE HOLDER		
77	19501403T	WIRE CLUMPER		
81	303211301T	ROLLER SHAFT AS		
82	303211501T	L GEAR PLATE RV		
83	303211302T	LOADING PLATE A		
84	303211502T	LOCK ARM RV ASS		
85	303211303T	L/F MOTOR ASS'Y		
86	30321101T	LOADING GEAR 1		
87	30321102T	LOADING GEAR 2		
88	30321103T	LOADING GEAR 3		
89	30321104T	LOADING GEAR 4		
90	30321105T	LOADING GEAR 5		
91	30321106T	LOADING GEAR 6		
92	30321107T	LOADING GEAR 7		
93	30321111T	ROLLER GUIDE		
94	30321114T	ROLLER GUIDE SP		
95	30321116T	DISC STOPPER AR		
96	30321117T	DISC ST ARM SPG		
97	30321118T	LD GEAR BRACKET		
98	30321125T	L SIDE PLATE		
99	30321131T	LOAD PLATE SPG		
100	30321133T	LDG ROLLER		
101	18211223T	COLLAR SCREW		
111	9P0420031T	SCREW		
112	9P0420041T	TAP.SCREW		
113	9B0320041T	SCREW		
114	9C0117183T	SCREW		
115	9C0120203T	SCREW		
116	9C0317503T	SCREW		
121	9W0130170T	PW 3.5X8X0.3		
122	9W0513060T	HL WASHER		
123	9W0710070T	L WASHER		
124	9E0100152T	E RING		
125	9W0113020T	PW 2.1X4X0.13		

Electrical parts list

Main board

Block No. [0][1][0][0]

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
IC161	TEA6320T-X	IC			C32	NCB31HK-102X	C CAPACITOR	1000pF 50V K	
IC302	LA4743K	POWER IC			C33	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M	
IC501	TA2157FN-X	RF AMP IC			C35	NDC31HJ-470X	C CAPACITOR	47pF 50V J	
IC521	TC94A14FA	CD LSI IC			C41	NCB31EK-563X	C CAPACITOR	0.056uF 25V K	
IC561	LA6579H-X	IC			C42	NCB31HK-123X	C CAPACITOR	0.012uF 50V K	
IC571	HA17558AF-X	IC			C81	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
IC701	UPD178078GF-622	IC			C82	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
IC801	MM74HC126SJ-X	IC			C83	NCB21EK-333X	C CAPACITOR	0.033uF 25V K	
IC901	HA13164A	IC			C84	NCB21EK-333X	C CAPACITOR	0.033uF 25V K	
Q1	KRC102S-X	DIGI TRANSISTOR			C85	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
Q2	KRC102S-X	DIGI TRANSISTOR			C141	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
Q21	2SB624/4/-X	TRANSISTOR			C142	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M	
Q22	2SB709A/R/-X	TRANSISTOR			C143	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M	
Q23	KRC102S-X	DIGI TRANSISTOR			C144	NCB31EK-103X	C CAPACITOR	0.01uF 25V K	
Q31	2SD601A/R/-X	TRANSISTOR			C151	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
Q32	2SD601A/R/-X	TRANSISTOR			C152	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
Q41	2SC3661-X	TRANSISTOR			C161	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
Q42	2SC3661-X	TRANSISTOR			C162	NCB31HK-822X	C CAPACITOR	8200pF 50V K	
Q241	2SD601A/R/-X	TRANSISTOR			C163	NCB21CK-184X	C CAPACITOR	0.18uF 16V K	
Q301	KRC102S-X	DIGI TRANSISTOR			C164	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
Q341	2SD1781K/QR/-X	TRANSISTOR			C165	NCB31EK-333X	C CAPACITOR	0.033uF 25V K	
Q351	2SD1781K/QR/-X	TRANSISTOR			C166	NCB31HK-562X	C CAPACITOR	5600pF 50V K	
Q501	2SB1241/QR/-T	TRANSISTOR			C167	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
Q521	UN2111-X	TRANSISTOR			C168	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
Q522	KRC102S-X	DIGI TRANSISTOR			C171	QERF1HM-105Z	E CAPACITOR	1uF 50V M	
Q561	2SB1322/RS/-T	TRANSISTOR			C172	NCB31HK-822X	C CAPACITOR	8200pF 50V K	
Q963	2SB709A/R/-X	TRANSISTOR			C173	NCB21CK-184X	C CAPACITOR	0.18uF 16V K	
Q964	KRC102S-X	DIGI TRANSISTOR			C174	NCB31AK-224X	C CAPACITOR	0.22uF 10V K	
Q976	UN2111-X	TRANSISTOR			C175	NCB31EK-333X	C CAPACITOR	0.033uF 25V K	
Q977	UN2111-X	TRANSISTOR			C176	NCB31HK-562X	C CAPACITOR	5600pF 50V K	
D1	1SS355-X	SI DIODE			C183	NDC31HJ-391X	C CAPACITOR	390pF 50V J	
D2	1SS355-X	SI DIODE			C184	NDC31HJ-391X	C CAPACITOR	390pF 50V J	
D21	1SS355-X	SI DIODE			C185	QFV61HJ-334Z	MF CAPACITOR	0.33uF 50V J	
D22	1SS355-X	SI DIODE			C186	QFV61HJ-334Z	MF CAPACITOR	0.33uF 50V J	
D241	UDZS5.1B-X	Z DIODE			C187	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M	
D242	RB160M-30-X	SB DIODE			C188	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M	
D243	1SS355-X	SI DIODE			C193	NDC31HJ-391X	C CAPACITOR	390pF 50V J	
D244	1SS355-X	SI DIODE			C194	NDC31HJ-391X	C CAPACITOR	390pF 50V J	
D245	1SS355-X	SI DIODE			C195	QFV61HJ-334Z	MF CAPACITOR	0.33uF 50V J	
D301	1SS355-X	SI DIODE			C196	QFV61HJ-334Z	MF CAPACITOR	0.33uF 50V J	
D331	1SS355-X	SI DIODE			C242	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
D341	1SS355-X	SI DIODE			C243	NCB31EK-473X	C CAPACITOR	0.047uF 25V K	
D561	1A3G-T1	SI DIODE			C244	QEKJ1HM-224Z	E CAPACITOR	0.22uF 50V M	
D701	UDZS6.2B-X	Z DIODE			C245	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M	
D702	UDZS6.2B-X	Z DIODE			C300	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
D703	UDZS6.2B-X	Z DIODE			C303	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D704	UDZS6.2B-X	Z DIODE			C304	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D705	UDZS6.2B-X	Z DIODE			C305	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D706	UDZS6.2B-X	Z DIODE			C306	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D707	UDZS6.2B-X	Z DIODE			C308	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
D708	UDZS6.2B-X	Z DIODE			C309	QERF1EM-475Z	E CAPACITOR	4.7uF 25V M	
D709	UDZS6.2B-X	Z DIODE			C313	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D901	1N5401-F64	DIODE			C314	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D903	1SS355-X	SI DIODE			C315	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D905	RB160M-30-X	SB DIODE			C316	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
D906	RB160M-30-X	SB DIODE			C317	NCB31HK-223X	C CAPACITOR	0.022uF 50V K	
D976	1SS355-X	SI DIODE			C318	QERF1CM-107Z	E CAPACITOR	100uF 16V M	
D977	UDZS11B-X	Z DIODE			C319	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M	
C1	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M		C320	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M	
C2	QEKJ1HM-224Z	E CAPACITOR	0.22uF 50V M		C333	NCB31EK-273X	C CAPACITOR	0.027uF 25V K	
C6	NCS31HJ-101X	C CAPACITOR	100pF 50V J		C334	NCB31EK-273X	C CAPACITOR	0.027uF 25V K	
C12	QEKJ1HM-104Z	E CAPACITOR	0.1uF 50V M		C341	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C14	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		C351	NDC31HJ-101X	C CAPACITOR	100pF 50V J	
C17	NCS21HJ-560X	C CAPACITOR	56pF 50V J		C361	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C18	NDC31HJ-151X	C CAPACITOR	150pF 50V J		C362	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C21	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M		C363	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C22	NCB31HK-223X	C CAPACITOR	0.022uF 50V K		C364	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C24	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		C501	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
C31	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M		C502	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
					C503	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M	
					C504	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	
					C505	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M	
					C507	NCB31HK-682X	C CAPACITOR	6800pF 50V K	
					C508	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
C509	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		C914	NCB31EK-104X	C CAPACITOR	0.1uF 25V K	
C510	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C975	NCB31EK-823X	C CAPACITOR	0.082uF 25V K	
C511	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		C976	QERF0JM-476Z	E CAPACITOR	47uF 6.3V M	
C512	NDC31HJ-820X	C CAPACITOR	82pF 50V J		C977	QERF1CM-107Z	E CAPACITOR	100uF 16V M	
C513	NCB31HK-103X	C CAPACITOR	0.01uF 50V K						
C514	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J		R1	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C521	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R2	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
C522	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		R3	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C523	NDC31HJ-470X	C CAPACITOR	47pF 50V J		R5	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C524	NCB31HK-153X	C CAPACITOR	0.015uF 50V K		R8	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C525	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R9	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
C526	NCB31HK-272X	C CAPACITOR	2700pF 50V K		R10	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C527	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R21	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C528	NCB31EK-333X	C CAPACITOR	0.033uF 25V K		R22	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C530	NCB31EK-333X	C CAPACITOR	0.033uF 25V K		R23	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C531	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R24	NRSA02J-222X	MG RESISTOR	2.2kΩ 1/10W J	
C533	NCS31HJ-471X	C CAPACITOR	470pF 50V J		R25	NRS181J-150X	MG RESISTOR	15Ω 1/8W J	
C534	NCS31HJ-471X	C CAPACITOR	470pF 50V J		R26	NRS181J-150X	MG RESISTOR	15Ω 1/8W J	
C535	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R27	NRSA02J-100X	MG RESISTOR	10Ω 1/10W J	
C536	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R31	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
C537	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R32	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C538	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R33	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J	
C539	QEKJ1CM-107Z	E CAPACITOR	100uF 16V M		R34	NRSA02J-330X	MG RESISTOR	33Ω 1/10W J	
C540	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R41	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C541	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R42	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J	
C544	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R43	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J	
C545	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		R81	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
C546	NDC31HJ-101X	C CAPACITOR	100pF 50V J		R82	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	
C547	NCB31CK-104X	C CAPACITOR	0.1uF 16V K		R83	NRSA63J-432X	MG RESISTOR	4.3kΩ 1/16W J	
C548	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		R84	NRSA63J-432X	MG RESISTOR	4.3kΩ 1/16W J	
C549	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R91	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
C550	QEKJ1HM-105Z	E CAPACITOR	1uF 50V M		R161	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	
C551	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		R162	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C552	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R163	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C553	NDC31HJ-150X	C CAPACITOR	15pF 50V J		R165	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C554	NDC31HJ-120X	C CAPACITOR	12pF 50V J		R166	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C555	NDC31HJ-121X	C CAPACITOR	120pF 50V J		R171	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	
C556	QEKJ1AM-107Z	E CAPACITOR	100uF 10V M		R172	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C561	QEDJ1AM-476Z	E CAPACITOR	47uF 10V M		R173	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C562	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R175	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
C563	QEDJ1AM-107Z	E CAPACITOR	100uF 10V M		R176	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	
C564	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R177	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
C565	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R178	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
C566	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R183	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
C567	NCB31EK-473X	C CAPACITOR	0.047uF 25V K		R184	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
C571	NCS31HJ-821X	C CAPACITOR	820pF 50V J		R185	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C572	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M		R186	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C573	NCS31HJ-121X	C CAPACITOR	120pF 50V J		R187	NRSA63J-100X	MG RESISTOR	10Ω 1/16W J	
C574	NCS31HJ-821X	C CAPACITOR	820pF 50V J		R193	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
C581	NCS31HJ-821X	C CAPACITOR	820pF 50V J		R194	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
C582	QEKJ1EM-475Z	E CAPACITOR	4.7uF 25V M		R243	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C583	NCS31HJ-121X	C CAPACITOR	120pF 50V J		R244	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	
C584	NCS31HJ-821X	C CAPACITOR	820pF 50V J		R245	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
C591	QERF1AM-107Z	E CAPACITOR	100uF 10V M		R246	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J	
C592	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		R247	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
C593	QEKJ0JM-476Z	E CAPACITOR	47uF 6.3V M		R248	NRSA63J-470X	MG RESISTOR	47Ω 1/16W J	
C701	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		R249	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
C702	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R250	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	
C703	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R306	NRSA02J-471X	MG RESISTOR	470Ω 1/10W J	
C705	NDC31HJ-100X	C CAPACITOR	10pF 50V J		R307	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
C706	NDC31HJ-100X	C CAPACITOR	10pF 50V J		R341	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	
C707	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		R342	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
C708	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R345	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C710	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R351	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J	
C711	NCS31HJ-102X	C CAPACITOR	1000pF 50V J		R352	NRSA02J-101X	MG RESISTOR	100Ω 1/10W J	
C717	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R355	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
C718	NCB31EK-104X	C CAPACITOR	0.1uF 25V K		R503	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
C801	NCB31EK-103X	C CAPACITOR	0.01uF 25V K		R504	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
C901	QEZ0615-228	E CAPACITOR	2200uF		R505	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J	
C903	QEKJ1CM-476Z	E CAPACITOR	47uF 16V M		R506	NRSA63J-334X	MG RESISTOR	330kΩ 1/16W J	
C904	QEKJ1CM-226Z	E CAPACITOR	22uF 16V M		R507	NRSA02J-220X	MG RESISTOR	22Ω 1/10W J	
C905	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		R508	NRSA02J-220X	MG RESISTOR	22Ω 1/10W J	
C906	QEKJ1HM-225Z	E CAPACITOR	2.2uF 50V M		R509	NRSA63J-823X	MG RESISTOR	82kΩ 1/16W J	
C907	NCB31HK-103X	C CAPACITOR	0.01uF 50V K		R510	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J	
C908	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		R511	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
C909	QEKJ1AM-227Z	E CAPACITOR	220uF 10V M		R512	NRSA63J-202X	MG RESISTOR	2kΩ 1/16W J	
C910	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M		R513	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
C913	QEKJ1CM-106Z	E CAPACITOR	10uF 16V M		R514	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R515	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R516	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J	
R519	NRSA02J-151X	MG RESISTOR	150Ω 1/10W J	
R521	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J	
R522	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R523	NRSA63J-474X	MG RESISTOR	470kΩ 1/16W J	
R524	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R525	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R526	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R527	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R528	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R529	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R530	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R531	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R532	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R533	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	
R534	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R535	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R536	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R537	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R538	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R539	NRSA63J-155X	MG RESISTOR	1.5MΩ 1/16W J	
R541	NRS181J-220X	MG RESISTOR	22Ω 1/8W J	
R542	NRS181J-220X	MG RESISTOR	22Ω 1/8W J	
R561	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R562	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	
R563	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R564	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	
R566	NRSA02J-822X	MG RESISTOR	8.2kΩ 1/10W J	
R567	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	
R568	NRSA63J-302X	MG RESISTOR	3kΩ 1/16W J	
R571	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R572	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R573	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R574	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R575	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R581	NRSA63J-183X	MG RESISTOR	18kΩ 1/16W J	
R582	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	
R583	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	
R584	NRSA63J-151X	MG RESISTOR	150Ω 1/16W J	
R585	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R591	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R592	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R593	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R594	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R595	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R596	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R597	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R598	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R599	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	
R685	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R686	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R701	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R702	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R703	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R706	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R707	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R708	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R709	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R710	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R711	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R712	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R714	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R715	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R717	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R718	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R719	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R720	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R721	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R722	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	
R723	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R724	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R725	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R726	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R727	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R728	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R729	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R731	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	

△ Symbol No.	Part No.	Part Name	Description	Local
R732	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R733	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R734	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R735	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R746	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R747	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R748	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R749	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R750	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R762	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R801	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R802	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R803	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	
R804	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R805	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R806	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R807	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	
R808	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	
R809	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J	
R810	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R811	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	
R892	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	
R893	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	
R901	QRE142J-102X	C RESISTOR	1kΩ 1/4W J	
R902	NRSA02J-912X	MG RESISTOR	9.1kΩ 1/10W J	
R903	NRSA02J-472X	MG RESISTOR	4.7kΩ 1/10W J	
R905	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	
R906	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	
R907	NRS181J-222X	MG RESISTOR	2.2kΩ 1/8W J	
R908	NRS181J-222X	MG RESISTOR	2.2kΩ 1/8W J	
R967	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J	
R968	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	
R976	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	

L1	QQL244J-4R7Z	INDUCTIOR	4.7uH J
L521	QQL244J-470Z	COIL	47uH J
L522	QQL244J-470Z	COIL	47uH J
L523	QQL244J-470Z	COIL	47uH J
L524	QQL244J-470Z	COIL	47uH J
L701	QQL244J-4R7Z	INDUCTIOR	4.7uH J
L702	QQL244J-4R7Z	INDUCTIOR	4.7uH J
L901	QQR1362-001	CHOKE COIL	
CJ1	QNB0100-002	CAR ANT JACK	
CJ321	QNN0519-001	SURROUND JACK	
CJ322	QNZ0095-001	CONNECTOR	
CJ691	VMC0334-001	CONNECTOR	
CN501	QGB2027M4-22S	CONNECTOR	B-B (1-22)
CN901	QNZ0611-001	16P CONNECTOR	
TU1	QAU0281-001	TUNER PACK	
X521	QAX0760-001Z	CRYSTAL	
X701	QAX0759-001Z	CRYSTAL	

Front board

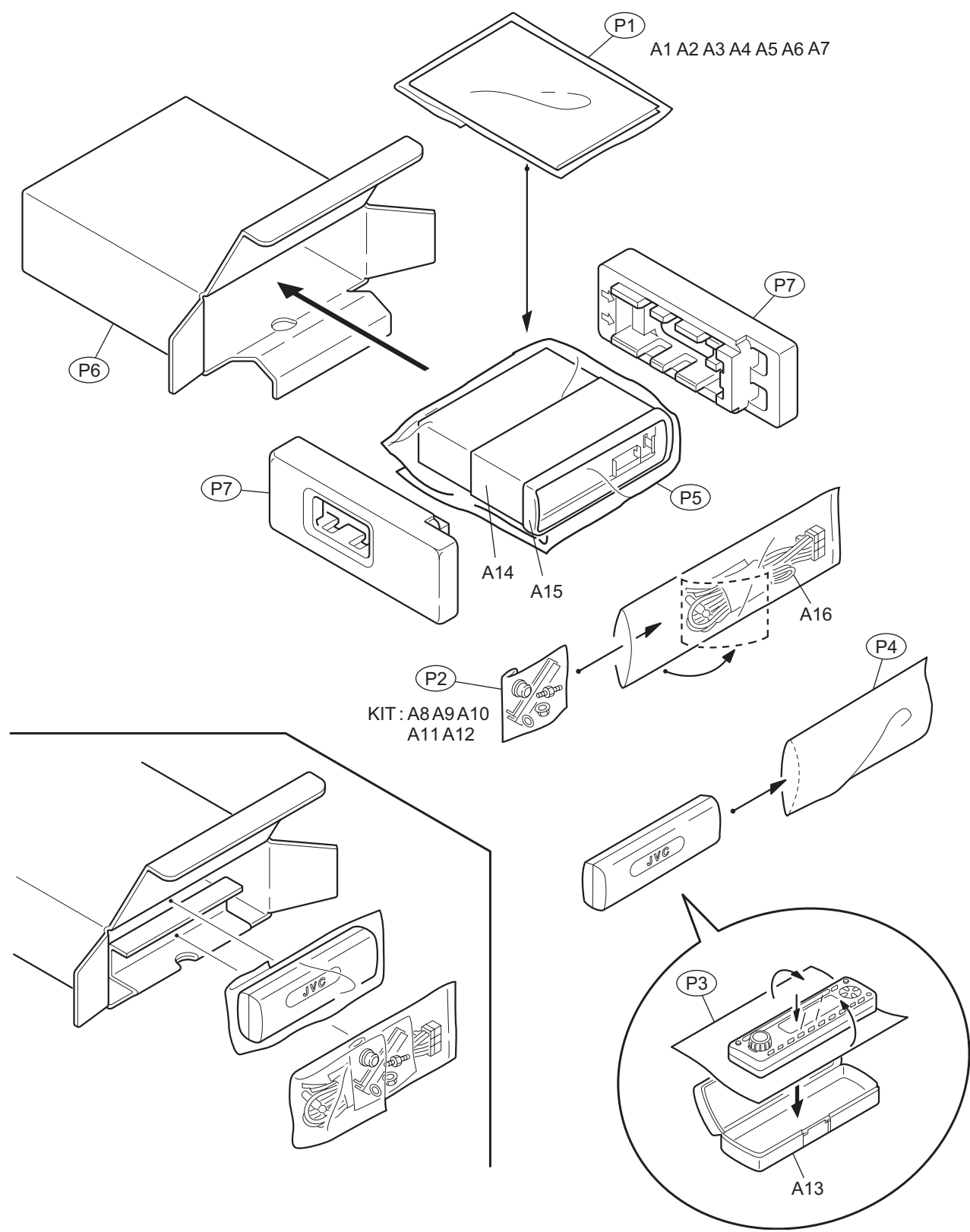
Block No. [0][2][0][0]

△ Symbol No.	Part No.	Part Name	Description	Local
IC601	PT6523LQ	IC		
IC602	RPM6938-SV4	IC		
D601	LNJ308G81/1-3/X	LED		
D602	LNJ308G81/1-3/X	LED		
D603	LNJ308G81/1-3/X	LED		
D604	LNJ308G81/1-3/X	LED		
D605	LNJ308G81/1-3/X	LED		
D606	LNJ308G81/1-3/X	LED		
D607	LNJ308G81/1-3/X	LED		
D608	LNJ308G81/1-3/X	LED		
D609	LNJ308G81/1-3/X	LED		
D610	LNJ308G81/1-3/X	LED		
D611	LNJ308G81/1-3/X	LED		
D612	LNJ308G81/1-3/X	LED		
D613	LNJ308G81/1-3/X	LED		

△ Symbol No.	Part No.	Part Name	Description	Local	△ Symbol No.	Part No.	Part Name	Description	Local
D614	LNJ308G81/1-3/X	LED			S608	NSW0124-001X	TACT SW		
D615	LNJ308G81/1-3/X	LED			S609	NSW0124-001X	TACT SW		
D616	LNJ308G81/1-3/X	LED			S610	NSW0124-001X	TACT SW		
D617	LNJ308G81/1-3/X	LED			S611	NSW0124-001X	TACT SW		
D618	LNJ308G81/1-3/X	LED			S612	NSW0124-001X	TACT SW		
D619	LNJ308G81/1-3/X	LED			S613	NSW0124-001X	TACT SW		
D620	LNJ308G81/1-3/X	LED			S614	NSW0124-001X	TACT SW		
D621	LNJ308G81/1-3/X	LED			S615	NSW0124-001X	TACT SW		
D622	SML-310LT/MN/-X	LED			S616	NSW0124-001X	TACT SW		
D641	UDZS5.1B-X	Z DIODE			S617	NSW0124-001X	TACT SW		
D642	1SS355-X	SI DIODE			S618	NSW0124-001X	TACT SW		
D644	UDZS5.1B-X	Z DIODE							
D731	NSPG346BS/GST/	GREEN LED							
D732	NSPG346BS/GST/	GREEN LED							
C601	NCB31HK-223X	C CAPACITOR	0.022uF 50V K						
C602	NCS31HJ-681X	C CAPACITOR	680pF 50V J						
C603	NBE20JM-106X	TA E CAPACITOR	10uF 6.3V M						
C611	NCB31HK-123X	C CAPACITOR	0.012uF 50V K						
C612	NBE20JM-475X	TA E CAPACITOR	4.7uF 6.3V M						
C613	NCB31HK-153X	C CAPACITOR	0.015uF 50V K						
C614	NCB31HK-153X	C CAPACITOR	0.015uF 50V K						
R601	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R602	NRSA63J-392X	MG RESISTOR	3.9kΩ 1/16W J						
R603	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R604	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J						
R605	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J						
R606	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R607	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R608	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J						
R609	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J						
R610	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J						
R612	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R613	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J						
R614	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J						
R615	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J						
R616	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J						
R631	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R632	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J						
R633	NRSA02J-102X	MG RESISTOR	1kΩ 1/10W J						
R634	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R635	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R636	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R637	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R638	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J						
R639	NRSA02J-331X	MG RESISTOR	330Ω 1/10W J						
R640	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J						
R641	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J						
R642	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J						
R643	NRSA02J-511X	MG RESISTOR	510Ω 1/10W J						
R644	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R645	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R646	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R647	NRSA02J-821X	MG RESISTOR	820Ω 1/10W J						
R651	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J						
R653	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J						
R654	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J						
R655	NRS181J-103X	MG RESISTOR	10kΩ 1/8W J						
R656	NRS181J-103X	MG RESISTOR	10kΩ 1/8W J						
R657	NRSA63J-513X	MG RESISTOR	51kΩ 1/16W J						
R658	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J						
R659	NRS181J-681X	MG RESISTOR	680Ω 1/8W J						
R660	NRS181J-681X	MG RESISTOR	680Ω 1/8W J						
R662	NRSA02J-0R0X	MG RESISTOR	0Ω 1/10W J						
R670	NRSA02J-103X	MG RESISTOR	10kΩ 1/10W J						
R671	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J						
R674	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J						
CJ601	VMC0335-001	PANEL CONNECTOR							
JS690	QSW0793-001	ROTARY ENCODER							
S601	NSW0124-001X	TACT SW							
S602	NSW0124-001X	TACT SW							
S603	NSW0124-001X	TACT SW							
S604	NSW0124-001X	TACT SW							
S605	NSW0124-001X	TACT SW							
S606	NSW0124-001X	TACT SW							
S607	NSW0124-001X	TACT SW							

Packing materials and accessories parts list

Block No. M 3 M M



Packing and accessories

Block No. [M][3][M][M]

△ Symbol No.	Part No.	Part Name	Description	Local
A 1	GET0157-001A	INST BOOK	ENG FRE SPA	
A 2	GET0157-002A	INSTALL MANUAL	ENG FRE SPA	
A 3	GET0153-001A	CAUTION SHEET		
A 4	LVT0717-001B	TROUBLE SHEET(C		
A 5	BT-51018-3	WARRANTY CARD		
A 6	BT-52006-2	WARRANTY CARD		
A 7	BT-51028-2	J=REGIST CARD		
A 8	VKZ4027-202	PLUG NUT		
A 9	VKH4871-001SS	MOUNT BOLT		
A 10	VKZ4328-001	LOCK NUT		
A 11	WNS5000Z	WASHER		
A 12	GE40130-001A	HOOK	(x2)	
A 13	FSJB3002-00C	HARD CASE		
A 14	GE20137-003A	MOUNTING SLEEVE		
A 15	GE20135-001A	TRIM PLATE		KD- SX50M
A 15	GE20135-005A	TRIM PLATE		KD- SX60W T
A 16	QAM0013-006	16P CORD ASSY		
KIT	KSF480K-SCREW1	SCREW PARTS KIT	A8 to A12	
P 1	FSPG4002-001	POLY BAG		
P 2	QPA00801205	POLY BAG	8cm x 12cm	
P 3	FSYH4036-068	SHEET		
P 4	QPA01003003	POLY BAG	10cm x 30cm	
P 5	QPC03004315P	POLY BAG	30cm x 43cm	
P 6	GE30870-001A	CARTON		KD- SX50M
P 6	GE30867-001A	CARTON		KD- SX60W T
P 7	GE10047-001A	EPS CUSHION	(x2)	